



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

OF THE

COUNTY BOROUGH OF CARDIFF,

FOR THE YEAR 1900.

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MEDICAL OFFICER OF HEALTH.

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CARDIFF:

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1901.

COUNTY BOROUGH OF CARDIFF.

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Inspector under Shop Hours Act and Inspector of Workshops :

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Clerk :

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Cardiff Urban Sanitary Authority.

TOWN HALL, CARDIFF,

June, 1901.

TO THE CHAIRMAN AND MEMBERS OF THE CARDIFF URBAN SANITARY
AUTHORITY.

GENTLEMEN,

I have the honour of submitting to you my Report for the year 1900, made in accordance with the Local Government Board's Order of March, 1891, which specifies the information to be contained in the Annual Reports of Medical Officers of Health.

A Memorandum issued by the Board's Medical Officer, dated December, 1900, directs that "the Report should be chiefly concerned with the conditions affecting health in the district and with the means for improving those conditions. It should contain an account, brought up to the end of the year under review, of the Sanitary circumstances of the district, and of any improvement or deterioration which may have occurred during the year in those circumstances. Care should be taken to report fully and explicitly on the influences affecting or threatening to affect injuriously the public health in the district, and on the action which has been taken, or which may still be needed, with a view to combat those influences. It is of especial importance that the Medical Officer of Health should record what action has been taken to remedy unhealthy conditions which have been reported by him in previous Annual Reports, or in special reports presented during the year under review, and that attention should be called afresh year by year to such as remain unremedied."

The Report will therefore contain information relating to the following subjects:—

- (1) Physical features, general character, meteorology and vital statistics of the district.
- (2) House Accommodation, especially for the working class: Its adequacy and fitness. Sufficiency of open space about houses, and cleanliness of surroundings.
- (3) Sewerage and Drainage: Its sufficiency in all parts of the district.
- (4) Removal and disposal of house refuse.
- (5) Water Supply of the District: Sufficiency, wholesomeness, and freedom from risks of pollution.
- (6) Places over which the Council have supervision, *e.g.*, Lodging-houses, Slaughter-houses, Bakehouses, Dairies, Cowsheds and Milkshops, Factories and Work-shops, and offensive trades.
- (7) Nuisances: Proceedings for their abatement.
- (8) Methods of dealing with Infectious Diseases: Notification; Isolation Hospital accommodation and disinfection.

It will be observed that the Statistical Tables in the Appendix of the Report differ from those supplied in former years. Four tables have, at the suggestion of the Incorporated Society of Medical Officers of Health, been substituted for the Tables A and B previously in use.

The Municipal Borough of Cardiff originally comprised the Parishes of St. John the Baptist and St. Mary the Virgin. Under the provisions of the Cardiff Improvement Act of 1875, the boundary of the Borough was extended so as to include the Parish of Roath and that part of the Parish of Llandaff known as Canton.

By an order of the Privy Council, dated 21st October, 1890, the Borough was divided into ten Wards.

The following tables, taken from the Census Report of 1891, give the distribution of the population in the Municipal Wards and Civil Parishes:—

TABLE I.—Distribution of the population in the Municipal Wards of the Borough (Census 1891):—

MUNICIPAL BOROUGH OF CARDIFF.

Borough and Wards.	HOUSES.			POPULATION (CENSUS 1891).		
	Inhabited.	Uninhabited.	Building.	Persons.	Males.	Females.
Ward—Adamsdown ...	2,132	83	...	16,234	9,398	6,836
„ Canton ...	2,354	96	6	13,166	6,500	6,666
„ Cathays ...	2,408	25	12	14,523	7,404	7,119
„ Central ...	2,008	247	9	12,348	6,105	6,243
„ Grangetown ...	1,809	45	97	11,734	5,975	5,759
„ Park ...	2,587	110	109	14,289	6,754	7,535
„ Riverside ...	2,373	77	20	14,897	7,359	7,538
„ Roath ...	1,949	162	31	12,200	5,886	6,314
„ South ...	1,554	156	13	10,719	5,824	4,895
„ Splott ...	1,302	85	35	8,805	4,540	4,265
Total ...	20,476	1,086	332	128,915	65,745	63,170

According to the Census of April, 1891, the Population and the Number of Houses in each Parish were as follows:—

TABLE II.

Borough and Con- stituent Parishes.	HOUSES.			POPULATION, 1891.			Population, 1881.
	Inhabited.	Uninhabited.	Building.	Males.	Females.	Persons.	
Canton ...	5,484	180	85	16,425	16,380	32,805	14,797
Roath ...	6,552	367	175	19,884	19,773	39,657	23,096
St. John ...	4,386	218	29	13,060	14,098	27,158	16,614
St. Mary ...	4,054	321	43	16,376	12,919	29,295	28,254
County Borough of Cardiff ...	20,476	1,086	332	65,745	63,170	128,915	82,761

VITAL STATISTICS, 1900.

POPULATION.—The population of the Borough of Cardiff, as estimated by the Registrar-General on the basis of the Census enumeration, was for the middle of the year 1900, 194,247, and the birth and mortality rates given in this Report have been calculated on this estimate. As mentioned in previous Reports, the value of these rates becomes extremely uncertain towards the end of the period intervening between each Census enumeration.

The estimates of the population made annually by the Registrar-General since 1891 are based on the assumption that the increase has gone at exactly the same rate that it did during the intercensal period of 1881-1891. The birth-rates and death-rates calculated on these estimates are, therefore, only approximately correct, and any error which may exist is necessarily increased in proportion to the length of time which has elapsed since the last Census. It is possible to check the official estimate by methods which, although they do not give extremely accurate results, form sometimes useful guides. Thus, by multiplying the number of inhabited houses in the district by the average number of inmates in each house, an estimate of the population may be obtained. In this way the population of the Borough has been estimated annually for the sake of comparison with the Registrar-General's population, and with the following results :—

Year	1893	1894	1895	1896	1897	1898	1899	1900
Registrar-General's Estimate	142,435	148,890	155,637	162,690	170,063	177,770	185,826	194,247
Estimate Inhabited Houses	147,495	155,233	161,232	169,459	172,113	176,384	180,212	185,037

It would thus appear that during the first part of the intercensal period the Registrar-General's estimate was too low, and during the latter part too high. The extent of the influence of this difference in the population on the birth and death rates is, however, not very marked, and in any case would have little effect on the relative position of these rates amongst the other large towns subject to the same conditions. It must be remembered also that the average number of inmates, *i.e.* 6·29 in each house, as given in the census of 1891, is probably too high for the present time. Taking this average as 5·5, a fraction above the average number of persons per house in the whole of England and Wales, the population would work out at 158,158 for the year 1900.

At the time of the Census of 1881 the town was not divided into the ten wards which now comprise the Municipal Borough. No estimate of the population in these localities has been made by the Registrar-General since the census enumeration of 1891.

In these divisions, as in the new Registration Sub-districts, the death rates are calculated solely on populations obtained by means of the number of houses ascertained to be inhabited in June, 1900.

The density of population as measured by the number of persons per acre is given in the following table :—

TABLE III.
COUNTY BOROUGH OF CARDIFF.
DENSITY OF POPULATION.

Year.	Persons per Acre.			
1890	15·9
1891	17·7
1892	18·5
1893	23·5
1894	24·6
1895	25·7
1896	26·8
1897	28·1
1898	29·3
1899	30·6
1900	32·0

TABLE IV.
COUNTY BOROUGH OF CARDIFF, 1900.

DENSITY OF POPULATION.				HOUSES.			
WARD.	Area in Acres.	Population.	Persons per Acre.	INHABITED.	Vacant.	Building.	Total.
Central ...	473	12,661	26·7	2,013	404	5	2,422
South ...	519	11,743	22·6	1,867	122	2	1,991
Cathays ...	369	20,530	55·6	3,264	218	25	3,507
Park ...	533	25,757	48·3	4,095	170	1	4,266
Adamsdown ...	1,570	13,523	8·6	2,150	108	—	2,258
Riverside ...	313	19,209	61·3	3,054	116	19	3,189
Canton ...	449	23,700	52·7	3,768	301	33	4,102
Roath ...	766	15,775	20·5	2,508	145	59	2,712
Grangetown ...	1,905	20,612	10·8	3,277	219	2	3,498
Splott ...	1,454	17,360	11·9	2,760	95	49	2,904
Total U.S.D. { Cardiff	*8,351	180,870	21·6	28,756	1,898	195	30,849

*Excluding 108 acres the area of the Bute Docks, and 37 acres the area of the land on the Flat Holm Island, making a total of 8,496 acres of which 2,600 consist of water and foreshore.

INSTITUTIONS (CENSUS 1891).

	POPULATION
Barracks	278
Workhouse	713
H.M. Prison	201
Nazareth House	130
Flat Holm Barracks	9
"Hamadryad"	56
"Havannah"	80
Infirmary	143
	<hr/>
	1,610
Sanatorium (estimated)	29
	<hr/>
	<u>1,639</u>

Inhabited houses: $28,756 \times 6\cdot29 = 180,875$
Institutions = 1,639
Floating population = 2,523

185,037

Registrar-General's Estimate ... 194,247

TABLE V.—Births, Deaths, and Natural Increase of Population for Fifty-six years,
1845—1900.

Year.	Population.	Births.	Deaths.	Excess of Deaths over Births.	Excess of Births over Deaths.
1845	13,385	320	324	4	...
1846	14,212	381	321	...	60
1847	15,039	331	484	153	...
1848	15,866	428	579	151	...
1849	16,693	466	864	395	...
1850	17,520	504	485	...	19
1851	18,354	575	585	...	50
1852	19,724	696	620	...	76
1853	21,094	865	644	...	221
1854	22,464	950	925	...	25
1855	23,834	1,079	641	...	438
1856	25,204	1,227	772	...	455
1857	26,574	1,367	883	...	484
1858	27,944	1,356	753	...	603
1859	29,314	1,336	826	...	510
1860	30,684	1,346	662	...	584
1861	32,054	1,223	837	...	386
1862	32,804	1,267	695	...	373
1863	33,552	1,302	862	...	440
1864	34,300	1,369	932	...	467
1865	35,048	1,382	867	...	515
1866	35,796	1,331	882	...	449
1867	36,544	1,397	873	...	524
1868	37,292	1,387	843	...	544
1869	38,640	1,414	1,005	...	409
1870	38,788	1,406	903	...	503
1871	39,356	1,391	891	...	500
1872	40,284	1,358	916	...	442
1873	41,032	1,430	995	...	435
1874	41,780	1,550	885	...	665
*1875	69,850	2,716	1,547	...	1,169
1876	72,438	2,707	1,455	...	1,252
1877	75,026	2,772	1,475	...	1,297
1878	77,614	2,795	1,468	...	1,327
1879	80,202	2,969	1,428	...	1,541
1880	82,790	2,893	1,634	...	1,295
1881	85,378	3,145	1,556	...	1,598
1882	88,603	3,399	1,724	...	1,675
1883	91,204	3,526	1,807	...	1,719
1884	93,468	3,920	2,250	...	1,670
1885	97,034	4,164	2,487	...	1,683
1886	100,736	4,270	2,269	...	2,001
1887	104,580	4,277	2,280	...	1,997
1888	108,570	4,409	2,212	...	2,197
1889	112,712	4,361	2,190	...	2,172
1890	117,012	4,600	2,469	...	2,131
1891	130,283	4,739	2,873	...	1,866
1892	136,181	4,776	2,560	...	2,216
1893	142,435	5,110	2,794	...	2,316
1894	148,890	5,100	2,415	...	2,685
1895	155,637	5,321	2,840	...	2,481
1896	162,690	5,591	2,795	...	2,796
1897	170,063	5,279	2,554	...	2,745
1898	177,770	5,520	2,627	...	2,893
1899	185,826	5,309	2,858	...	2,451
1900	194,247	5,798	2,667	...	3,131

* Canton and Roath taken into the Borough.

TABLE VI.**BOROUGH OF CARDIFF.**

Estimated Population at various groups of Ages, 1900.

Ages.	Persons.	Males.	Females.
All Ages	194,247	99,063	95,184
Under 5 years	26,020	13,129	12,891
5 and under 10	22,887	11,373	11,514
10 " " 15	20,362	10,105	10,257
15 " " 20	18,879	9,482	9,397
20 " " 25	20,070	10,038	10,032
25 " " 30	18,717	9,676	9,041
30 " " 35	15,707	8,401	7,306
35 " " 40	13,017	7,027	5,990
40 " " 45	10,437	5,620	4,817
45 " " 50	8,427	4,537	3,890
50 " " 55	6,541	3,349	3,192
55 " " 60	4,458	2,293	2,165
60 " " 65	3,832	1,825	2,007
65 " " 70	2,244	1,070	1,174
70 " " 75	1,491	651	840
75 " " 80	719	309	410
80 and upwards	439	178	261

TABLE VII.

MARRIAGES.—The number of Marriages registered during the year 1900 was 1,706, corresponding to a rate of 17·5 persons married per 1,000 persons living.

A return of the number of Marriages in the Borough of Cardiff, together with the rate of persons married per 1,000 of the population is given below :—

Year.	Number of Marriages.	Rate per 1,000 persons living.
1886	1,244	24·6
1887	1,322	25·2
1888	1,259	23·1
1889	1,431	25·3
1890	1,440	24·6
1891	1,651	17·6
1892	1,526	22·4
1893	1,447	20·3
1894	1,480	19·8
1895	1,271	16·3
1896	1,721	21·1
1897	1,637	19·8
1898	1,525	17·2
1899	1,719	18·5
1900	1,706	17·5

BIRTHS.—During the year 1900 the Births registered in the Borough were 5,198, of these 2,652 were males, and 2,546 females.

The number corresponded to an annual birth-rate of 26·7 per 1,000, compared with 28·5 the rate in 1899, and with 29·4 the average rate in the large towns.

TABLE VIII. gives the number of legitimate and illegitimate births, male and female, and the number of deaths amongst children under one year of age in each Ward :—

TABLE VIII.

WARDS.			Legitimate.		Illegitimate.		Total.		TOTAL.	Deaths under One Year.
			M.	F.	M.	F.	M.	F.		
Central	Ward	...	126	110	4	4	130	114	244	52
South	"	...	133	114	...	2	133	116	249	39
Cathays	"	...	290	303	4	5	294	308	602	81
Park	"	...	313	310	6	5	319	315	634	65
Adamsdown	"	...	217	195	1	2	218	197	415	57
Riverside	"	...	183	181	3	2	186	183	369	49
Canton	"	...	361	386	6	6	367	392	759	88
Roath	"	...	216	185	2	6	218	191	409	75
Grangetown	"	...	409	413	6	11	415	424	839	134
Sploot	"	...	327	280	5	3	332	283	615	74
Union Workhouse	"	...	9	9	31	14	40	23	63	16
TOTAL			2,584	2,486	68	60	2,652	2,546	5,198	730

TABLE IX.—Annual Birth-rate in Cardiff compared with that in the large towns during the ten years ending 1900.

33 LARGE TOWNS.		Annual Birth-rate per 1,000 living.									
		1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
London	...	31·8	30·9	31·0	30·1	30·5	30·2	30·0	29·5	29·4	28·6
West Ham	...	...	37·0	35·6	34·0	34·3	32·6	32·2	30·6	29·7	28·6
Croydon	...	...	26·5	26·2	25·0	25·3	25·1	25·0	25·4	25·1	24·9
Brighton	...	26·3	25·5	25·4	25·8	25·6	24·7	24·7	24·8	24·9	23·6
Portsmouth	...	30·1	28·0	28·2	27·6	27·9	27·6	26·9	26·7	26·2	25·7
Plymouth	...	29·8	29·1	29·9	28·8	28·7	28·8	28·5	29·7	29·8	28·4
Bristol	...	30·4	29·6	30·4	28·2	28·9	27·6	27·8	28·6	29·2	27·8
Swansea	...	...	35·2	35·1	32·3	33·4	30·5	29·4	28·9	27·7	26·7
Wolverhampton	...	34·2	33·7	34·5	34·1	35·4	34·4	35·1	35·8	35·3	33·5
Birmingham	...	34·2	33·3	32·7	31·7	32·4	32·6	33·3	34·0	34·3	32·7
Norwich	...	31·9	30·5	30·9	29·8	31·8	30·8	30·5	29·9	29·1	28·4
Leicester	...	33·9	32·2	32·6	31·5	30·8	30·8	30·6	29·6	29·4	28·2
Nottingham	...	29·9	29·4	30·2	28·6	29·7	28·9	28·9	28·9	28·9	27·7
Derby	...	30·6	31·1	32·2	29·3	29·1	28·0	27·1	27·4	28·1	26·9
Birkenhead	...	33·0	33·4	33·1	30·6	30·7	31·7	31·6	30·4	29·9	29·0
Liverpool	...	34·6	34·7	36·0	35·4	36·9	34·9	35·3	35·2	35·6	36·0
Bolton	...	34·1	32·7	33·1	31·5	32·9	31·3	32·5	30·9	29·9	34·7
Manchester	...	34·1	33·7	33·6	32·0	33·7	33·0	33·2	32·7	32·6	32·3
Salford	...	36·4	35·9	34·7	34·3	35·9	34·9	35·1	34·7	33·9	33·1
Oldham	...	31·1	29·1	28·6	27·2	27·5	27·2	26·1	25·3	24·8	24·1
Burnley	...	...	34·2	33·9	32·2	32·1	31·0	29·8	27·1	25·3	25·3
Blackburn	...	33·9	31·9	30·9	28·8	30·6	27·7	27·7	27·1	27·0	25·1
Preston	...	36·0	34·3	35·1	32·1	33·4	32·6	31·9	31·0	30·1	29·0
Huddersfield	...	24·4	23·0	23·8	20·2	21·7	20·5	23·4	22·5	23·0	22·8
Halifax	...	26·2	25·9	24·6	23·1	23·4	24·3	22·5	22·9	23·1	23·1
Bradford	...	28·7	27·2	27·7	26·7	26·1	25·5	24·6	24·0	23·4	23·1
Leeds	...	34·1	33·5	32·4	32·2	31·6	30·7	31·6	31·2	30·6	30·4
Sheffield	...	36·6	35·3	34·8	33·4	34·9	34·0	34·4	33·9	34·6	34·2
Hull	...	34·6	35·0	34·2	32·4	34·2	31·9	33·3	33·4	34·3	32·9
Sunderland	...	37·8	37·1	35·6	35·1	35·1	34·2	34·6	35·4	35·7	35·8
Gateshead	...	...	35·3	36·5	34·2	34·6	35·8	35·8	35·5	36·6	36·3
Newcastle-on-Tyne	...	35·8	34·3	33·7	31·0	31·2	31·1	31·3	31·7	31·4	30·4
Cardiff	...	36·5	35·3	36·0	34·4	34·1	34·3	31·1	31·1	28·6	26·8
Large Towns	...	32·6	31·9	31·9	30·7	31·3	30·7	30·7	30·3	30·2	29·4

DEATHS.—During the year 1900, 2,667 deaths were registered, of these 1,370 were males and 1,297 were females. The deaths were equal to an annual death-rate of 13·7 per 1,000 persons living, as compared with 15·3, the rate in the preceding year, and with 17·6 the average rate in the ten years 1890-1899. The “natural increase” of the population, or the excess of births over deaths amounted 2,531. I have, therefore, again the satisfaction of recording an exceedingly low death-rate, the lowest on record since the returns were first published in 1845. The death-rate in Cardiff for the year 1900 was the lowest amongst the 33 large towns, including London, dealt with by the Registrar-General in his returns; and the actual number of deaths, notwithstanding the increase in the population, was less than in the preceding year. The rate of mortality in London during the year under notice was 18·8 per 1,000, while it averaged 20·0 in the 32 provincial towns, ranging from 13·7 in Cardiff, 14·6 in Croydon, 15·9 in West Ham, and 16·7 in Bristol, to 24·0 in Preston, 24·1 in Manchester, 25·1 in Salford, and 25·7 in Liverpool.

The number of deaths registered in Cardiff during the first quarter of the year at all ages and from all causes was 752, corresponding to an annual death-rate of 15·5 per 1,000 persons living as compared with 23·6, the rate in the 33 large towns, and with 17·2, the average rate in the first quarters of the five preceding years. The death-rates in the large towns ranged from 15·5 in Cardiff, 17·9 in West Ham and in Huddersfield, 18·5 in Swansea, and 18·6 Bristol, to 27·1 in Manchester, 29·8 in Salford, 31·4 in Liverpool, 31·6 in Wolverhampton, and 33·8 in Preston.

The deaths from the chief zymotic diseases during the first quarter were in Cardiff 100, corresponding to an annual death-rate of 2·06 per 1,000 persons living, as compared with 1·50, the rate in the first quarters of the five preceding years, and with 2·02, the average rate in the 33 large towns. Measles was the most prevalent and the most fatal of the zymotic diseases during the quarter, causing 57 deaths. Diphtheria caused 21 deaths, corresponding to a death-rate of 0·43 per 1,000, as compared with 0·42 per 1,000, the average rate in the 33 large towns.

During the second quarter of the year the total number of deaths registered was 719, corresponding to an annual death-rate of 14·8 per 1,000, as compared with 14·0, the average rate in the second quarter of the five preceding years, and with 18·7, the average rate in the large towns. The death-rates in the large towns in the second quarter of the year ranged from 13·8 in Birkenhead, 13·9 in Croydon, 14·2 in West Ham, 14·6 in Burnley, and 14·8 in Cardiff, to 22·6 in Plymouth, 23·0 in Wolverhampton, 23·6 in Salford, and 25·1 in Liverpool and in Manchester.

The deaths from the chief zymotic diseases during the second quarter were 141, corresponding to an annual rate of 2·90 per 1,000, as compared with 1·65, the rate in the second quarters of the five preceding years, and with 1·95, the average rate in the 33 large towns. In this quarter Measles was excessively prevalent and fatal, 96 deaths being registered from this disease. The mortality from Measles corresponded to an annual death-rate of 1·98 per 1,000. In the large towns the rate averaged 0·66 per 1,000.

During the third quarter of the year 611 deaths were registered, corresponding to an annual death-rate of 12·5 per 1,000, as compared with 18·6, the average rate in the large towns, and with 17·1, the average rate in the third quarters of the five preceding years. In the large towns the general death-rate in the third quarter ranged from 12·5 in Cardiff, 12·6 in Bradford, 13·2 in Halifax, and 13·3 in Croydon, to 22·3 in Manchester, 23·3 in Preston, 23·9 in Salford, 24·5 in Liverpool, and 24·7 in Sheffield.

The deaths from the chief zymotic diseases amounted to 112, corresponding to an annual death-rate of 2·51 per 1,000, as compared with 3·92, the average rate in the third quarters of the five preceding years. Nine deaths were registered from Measles, as compared with 96 in the previous quarter. Of the 112 deaths from zymotic diseases 62 were due to Diarrhoea, as compared with 150 in the third quarter of 1899. Of the 62 deaths from this disease 55 occurred amongst children under one year of age, and of these 40 per cent. were under three months of age.

In the fourth quarter of the year 585 deaths were registered from all causes, giving an annual death-rate of 12·2 per 1,000, as compared with 17·5, the rate in the 33 large towns, and with 15·8, the average rate in the five preceding fourth quarters. The death-rates in the large towns ranged from 12·1 per 1,000 in Cardiff, 12·3 in Croydon, 13·0 in Norwich, and 13·7 in West Ham, to 20·1 in Gateshead, 21·7 in Liverpool, 22·0 in Manchester, and 23·1 in Salford. The deaths from the principal zymotic diseases were 49 in number, equal to an annual rate of 1·00 per 1,000, as compared with 1·75, the rate in the fourth quarters of the five preceding years, and with 1·87, the rate in the 33 large towns.

The following Table gives a summary of the vital statistics in Cardiff during the years 1891-1900 :—

TABLE X.

Years.	Births.	Birth-rate per 1,000 Inhabitants.	Deaths from all causes.	Death-rate per 1,000 Inhabitants.	Death-rate from the seven chief Infectious Diseases per 1,000 Inhabitants	Deaths under one year per 1,000 Births registered.
1891	4,739	36·5	2,873	22·0	2·1	153
1892	4,776	35·0	2,560	18·7	2·7	157
1893	5,110	36·0	2,790	19·6	2·8	171
1894	5,100	34·2	2,415	16·2	1·7	137
1895	5,321	34·1	2,840	18·2	2·0	178
1896	5,591	34·3	2,795	16·8	2·2	165
1897	5,279	31·1	2,534	14·9	2·1	151
1898	5,520	31·0	2,627	14·7	2·2	157
1899	5,309	28·5	2,857	15·3	2·0	184
1900	5,198	26·7	2,667	13·7	2·0	140

The table of mortality in the Appendix gives the causes of death of both sexes at certain age groups. From this it will be seen that out of a total of 2,667 deaths, 730 or 27·3 per cent. were amongst children under one year of age. The most fatal of the zymotic diseases at this age period was Diarrhoea, which caused 69 deaths out of a total of 81 at all ages. Measles was the disease next in order of fatality amongst children under one year of age, causing 43 deaths at this age period out of a total of 162 at all ages. The fatality from Diphtheria amounted to a total of 81 as compared with 61 in the year 1899.

The following tables shew the death-rates per 1,000 at age periods from all causes and from certain diseases.

TABLE XI.—Showing age, distribution of population, and the number of deaths, and the death-rates per 1,000 at age periods :—

Age Periods.	Estimated Population, 1900.	Number of Deaths.	Annual Death-rate per 1,000.
0—5	26,020	1,149	44·1
5—15	43,249	147	3·3
15—25	38,949	133	3·4
25—65	81,136	829	10·2
65 upwards	4,893	409	5·4

TABLE XII.—Shewing death-rate per 1,000 at age periods from certain diseases :—

	0—5	5—15	15—25	25—65	65 upwards.	All Ages.
Measles	5·8	0·1	0·02	0·01	0·2	0·80
Scarlet Fever... ..	0·3	0·02	—	—	—	0·56
Diphtheria	2·0	0·6	0·2	—	—	0·41
Diarrhoea	2·8	·02	—	0·03	0·6	0·41
Whooping Cough ...	1·3	0·06	—	—	—	0·25
Pneumonia	6·0	0·3	0·3	1·1	4·6	0·90
Bronchitis	2·4	—	0·02	0·7	1·0	1·54
Tuberculosis (all forms)	0·5	0·09	0·07	0·1	—	0·18

On referring to Table XXVIII., giving the mortality in the different divisions in the town, it will be seen that the general death-rates are all low, the highest being 14·7 per 1,000 in the Central Registration Sub-District, as compared with 12·8 in the East and with 11·9 the rate in the West Sub-District. The death-rates from the chief zymotic diseases did not vary much in the several districts, being 2·0 per 1,000 in the East Registration Sub-District, 1·8 per 1,000 in the Central District, and 1·7 in the West District.

The Infant mortality, as measured by the proportion of deaths under one year to 1,000 births registered, was highest in the Central Registration Sub-District, where it reached 151 as compared with 137 in the West, and with 129 in the East Sub-District.

The general death-rate in the different Municipal Wards ranged from 9·1 per 1,000 in the Riverside Ward to 16·3 in the Central Ward.

The death rate from the chief zymotic diseases ranged from 2·9 per 1,000 in the Splott Ward to 1·3 in the Riverside Ward.

Measles was the most fatal amongst the zymotic diseases throughout the town, causing the highest fatality in the East Sub-District and in the Splott Ward in that District. Altogether 162 deaths from Measles were registered in the Borough, giving a death-rate of 0·8 per 1,000, the rate ranging from 0·3 per 1,000 in the Riverside Ward, to 1·8 in the Splott Ward.

The influence of season and weather upon mortality and sickness is particularly felt in the case of elderly and of very young persons.

A cold and dry winter is usually accompanied by a high death-rate from diseases of the respiratory organs, and a hot summer by a high rate of mortality from Diarrhoeal diseases.

During the past year the Meteorological Tables in the appendix to this Report show that the weather in the first quarter of the year was, during the month of January, cold and rather wet, with a prevailing east and south-east wind. February was cold, and during the latter part, wet. The prevailing wind was north-east. March was cold and dry, with a prevailing north-east wind. The mean temperature of the air during the quarter was 38·3° F., and was 2·6° below the mean reading for the corresponding quarter of the six preceding years. During this quarter the fatality from diseases of the respiratory organs and from Measles with pulmonary complications was excessive.

In the second quarter of the year during the month of April the weather was variable, the mean temperature being slightly below the average, with a south-west wind prevailing. During May the weather was cold and stormy. In June the mean temperature was also below the average, with a prevailing north-east wind. The mean temperature of the air during the second quarter was 50·7° F., and was 2·3° below the mean reading for the corresponding quarter of the six preceding years.

During the summer or third quarter of the year in the month of July the weather was hot, the mean temperature of the air being 73.8° F., as compared with 61.4° F., the average temperature in the corresponding month of the past six years.

The weather during August was rather wet and dull, with prevailing north-west winds. September was also comparatively cool, the mean temperature being about 7° below the average. The conditions during the third quarter, therefore, influenced favourably the mortality from Diarrhoeal diseases, which was considerably below the average in the five preceding summer quarters.

The weather during the fourth quarter was cold and wet, the temperature was slightly below the average in October and November, and rather above the average in December. The prevailing winds during October were north-west, and during November north-east. In December the rainfall was heavy, with a prevailing south-west wind, and with a mean temperature slightly above the average.

TABLE XIII.—Gives the population of each year, the annual deaths from all causes from the seven chief zymotic diseases, and the death-rates from 1845 to 1900, inclusive, in the Borough of Cardiff:—

Year.	Population.	All Causes.			Seven Chief Zymotic Diseases.		
		No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.	No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.
1845	13,385	324	24.2	33.1	51	3.8	10.0
1846	14,212	321	22.6		50	3.5	
1847	15,039	484	32.2		133	8.8	
1848	15,856	579	36.5		186	11.7	
1849	16,693	864	51.7		483	28.9	
1850	17,520	485	27.7		116	6.6	
1851	18,354	525	28.6		81	4.4	
1852	19,724	620	31.4		175	8.8	
1853	21,094	644	30.5		129	6.1	
1854	22,464	925	40.1		353	15.7	
1855	23,834	641	26.9	26.5	665	2.7	7.4
1856	25,204	772	30.6		136	5.3	
1857	26,574	883	33.2		234	8.8	
1858	27,944	753	26.9		128	4.5	
1859	29,314	826	28.1		212	7.2	
1860	30,684	662	21.5		95	3.0	
1861	32,054	837	26.1		100	3.1	
1862	32,804	695	21.2		132	4.0	
1863	33,552	862	25.7		268	7.0	
1864	34,300	932	27.1		250	7.3	
1865	35,048	867	24.7	23.5	161	4.5	3.9
1866	35,796	882	24.6		192	5.3	
1867	36,544	873	23.8		116	3.1	
1868	37,292	843	22.6		109	2.9	
1869	38,040	1,005	26.4		156	4.1	
1870	38,788	903	23.2		133	3.4	
1871	39,536	891	22.5		158	3.9	
1872	40,284	916	22.7		234	5.8	
1873	41,032	995	24.2		103	2.5	
1874	41,780	885	21.2		154	3.6	
*1875	69,850	1,547	22.1	20.0	294	4.2	3.3
1876	72,438	1,455	20.8		339	4.6	
1877	75,026	1,475	19.6		255	3.5	
1878	77,614	1,468	18.9		197	2.5	
1879	80,202	1,428	17.6		137	1.7	
1880	82,790	1,634	19.7		306	3.7	
1881	85,378	1,556	18.2		164	1.9	
1882	88,603	1,724	19.4		293	3.3	
1883	91,204	1,807	19.8		253	2.7	
1884	93,468	2,250	24.3		476	5.0	
1885	97,034	2,481	25.5	20.4	521	5.3	2.9
1886	100,736	2,269	22.5		532	3.2	
1887	104,580	2,280	21.8		278	2.6	
1888	108,570	2,212	20.3		324	2.9	
1889	112,712	2,190	19.4		248	2.1	
1890	117,012	2,469	21.1		282	2.4	
1891	130,283	2,873	22.0		272	2.1	
1892	136,181	2,560	18.7		371	2.7	
1893	142,435	2,794	19.6		408	2.8	
1894	148,890	2,415	16.2		257	1.7	
1895	155,637	2,840	18.2		324	2.0	
1896	162,690	2,795	16.8		362	2.2	
1897	170,063	2,534	14.9		371	2.1	
1898	170,770	2,627	14.8		396	2.2	
1899	185,826	2,858	15.3		384	2.0	
1900	194,247	2,667	13.7		402	2.0	

* Canton and Roath taken into the Borough.

TABLE XIV.—Annual Death-rate per 1,000 of the 33 large Towns in England and Wales for the 10 years 1891-1900 inclusive :—

33 LARGE TOWNS.	Annual Death-rate per 1,000 living.									
	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
London ...	21·4	20·6	21·3	17·8	19·8	18·6	18·2	18·7	19·8	18·8
West Ham ...	...	18·6	18·9	16·2	17·9	16·1	15·7	15·4	16·7	15·9
Croydon ...	...	15·8	16·3	13·2	14·5	14·2	13·1	13·9	15·0	14·6
Brighton ...	18·2	19·2	18·4	16·4	18·9	16·1	15·1	16·9	19·0	17·8
Portsmouth ...	19·0	18·5	18·2	15·2	17·8	16·6	16·2	16·3	19·7	17·3
Plymouth ...	22·5	18·8	21·2	18·3	20·1	19·6	19·0	19·5	21·7	20·8
Bristol ...	20·9	19·5	18·9	17·3	18·1	16·9	17·2	17·2	18·2	16·7
Swansea ...	...	20·4	19·6	17·0	18·3	16·8	15·8	18·6	18·1	17·1
Wolverhampton ...	24·2	21·5	23·3	20·7	24·4	20·0	22·5	21·3	21·8	22·5
Birmingham ...	22·2	20·4	22·2	18·6	20·3	20·8	21·6	20·0	20·8	21·5
Norwich ...	19·3	20·0	19·3	18·7	19·3	17·4	18·8	19·0	17·3	17·6
Leicester ...	21·7	18·2	20·0	14·7	17·2	16·7	17·7	16·9	17·7	17·4
Nottingham ...	19·9	18·7	18·5	17·2	19·0	17·5	18·8	17·7	20·0	19·1
Derby ...	19·1	19·3	18·2	15·0	16·7	15·7	16·0	16·8	16·9	17·5
Birkenhead ...	20·9	19·6	20·5	18·1	19·5	19·2	18·3	17·4	19·2	16·8
Liverpool ...	27·0	24·7	27·3	23·8	28·8	22·7	24·4	24·0	26·4	25·7
Bolton ...	21·9	22·8	24·1	18·8	24·0	20·7	22·0	19·4	19·9	19·5
Manchester ...	26·5	23·8	24·9	20·4	25·2	22·6	23·1	21·9	24·6	24·1
Salford ...	26·0	24·6	24·1	21·0	25·6	22·6	23·9	22·7	23·8	25·1
Oldham ...	25·7	22·0	21·0	18·6	22·0	20·3	19·2	17·6	20·5	19·6
Burnley ...	...	20·4	21·9	18·7	23·4	17·5	19·5	16·3	19·6	16·3
Blackburn ...	25·8	21·7	23·3	17·9	24·3	17·9	19·5	18·4	19·1	20·5
Preston ...	27·3	24·1	26·4	20·8	23·9	20·8	24·4	19·3	22·8	24·0
Huddersfield ...	23·0	18·1	17·2	15·8	16·9	16·5	16·4	15·9	16·2	16·8
Halifax ...	22·8	19·5	17·4	16·5	19·3	17·3	16·5	17·9	18·3	18·1
Bradford ...	22·2	18·0	21·0	17·0	19·9	16·5	17·5	17·6	18·4	16·4
Leeds ...	22·9	19·8	22·3	17·9	20·5	18·8	19·9	19·2	19·1	20·0
Sheffield ...	23·9	20·8	22·3	17·8	20·5	19·3	21·2	20·2	22·2	22·6
Hull ...	21·0	19·6	21·8	17·4	20·8	18·9	18·6	18·4	19·3	19·7
Sunderland ...	25·0	20·9	22·5	20·8	21·8	19·8	19·7	22·6	21·5	21·4
Gateshead ...	...	18·9	19·3	17·7	19·6	19·1	18·3	20·6	18·8	19·0
Newcastle-on-Tyne ...	23·8	19·7	21·0	18·3	20·5	18·5	19·1	21·4	20·6	19·5
Cardiff ...	22·0	18·8	19·6	16·2	18·2	16·8	14·9	14·7	15·4	13·7
Large Towns ...	22·5	20·7	21·6	18·1	20·7	18·9	19·1	19·0	20·2	19·5

INFANT MORTALITY.—The rate of infant mortality, as measured by the proportion of deaths of infants under one year of age, to 1,000 births registered was 140, as compared with 184 in 1899, and with 164 the average in the ten years 1890-99. In the 33 large towns the rate of infant mortality in 1900 corresponded to 172 deaths of infants under one year of age per 1,000 births registered. In London the rate of infant mortality was equal to 160 per 1,000 births, while it averaged 180 in the 32 provincial towns, among which it ranged from 132 in Croydon, in Huddersfield and in Halifax, 133 in Bristol, and 140 in Cardiff and in Bradford, to 205 in Wolverhampton and in Burnley, 207 in Salford, 220 in Blackburn, and 236 in Preston. It may be said generally that the infantile mortality as expressed in the manner indicated is a more accurate test of the sanitary condition of a district than the general uncorrected death-rate which is recorded. It is not liable to the error of a calculation based on an uncertain estimate of population, and deals with well-ascertained facts. From Table XVI. it will be seen that infant mortality is largely influenced by the prevalence of epidemic diarrhoea, which is extremely fatal amongst young children in the summer and autumn, by diseases of the respiratory system, of the nervous system, and of the digestive organs. Much of this mortality is no doubt to be accounted for by insanitary surroundings and by the ignorance and want of proper care and

management on the part of mothers, and, therefore, to some extent to causes which are uncontrollable by Sanitary Authorities. Still, it may be safely assumed that an infant mortality exceeding that which prevails in the country generally is an indication of the bad sanitary condition of the district in which it occurs. It is satisfactory to find, therefore, that Cardiff maintains a good relative position in this respect amongst the large towns, and that it stands third in order from the town which has the lowest rate.

TABLE XV.—Infant Mortality in large towns.

Large Towns.	Deaths under one year to 1,000 Births registered.										
	10 years 1890-99	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
London...	160	154	155	164	143	166	161	158	167	167	160
West Ham ...	164	...	153	170	138	168	165	171	170	197	189
Croydon ...	137	...	123	155	121	134	150	134	150	154	132
Brighton ...	156	137	151	169	138	164	135	142	181	173	166
Portsmouth ...	158	139	156	164	131	175	154	168	156	197	155
Plymouth ...	172	178	187	169	169	178	178	183	170	190	175
Bristol ...	149	146	147	141	150	143	142	148	164	158	133
Swansea ...	165	...	175	170	163	178	161	139	184	166	175
Wolverhampton ...	191	190	172	208	166	218	184	217	200	184	206
Birmingham ..	186	171	166	198	163	183	197	214	191	191	199
Norwich ...	180	159	182	195	164	190	164	196	192	179	178
Leicester ...	197	214	196	220	162	203	187	205	191	195	175
Nottingham ...	179	169	167	170	174	190	168	205	178	210	196
Derby ...	156	142	173	156	123	161	151	167	169	162	174
Birkenhead ...	171	148	168	196	143	174	177	162	186	186	160
Liverpool ...	192	188	181	211	179	210	173	200	184	198	186
Bolton ...	180	165	180	199	162	212	168	186	168	181	171
Manchester ...	190	192	179	203	160	203	176	194	197	206	189
Salford ...	203	194	185	210	174	231	199	220	212	209	207
Oldham...	183	292	177	187	161	190	184	183	175	198	172
Burnley ...	212	...	192	223	170	242	170	219	195	269	205
Blackburn ...	201	204	198	241	169	236	171	207	206	189	220
Preston ..	236	227	216	269	217	248	203	263	225	255	236
Huddersfield ...	156	185	150	141	160	158	166	130	153	152	132
Halifax ...	158	169	160	173	135	158	149	139	163	159	132
Bradford ...	174	181	155	197	145	203	143	178	185	181	141
Leeds ...	178	177	169	206	155	191	169	191	182	171	183
Sheffield ...	184	170	171	191	157	197	173	197	195	194	200
Hull ...	176	172	166	206	142	205	173	178	182	175	183
Sunderland ...	175	176	157	188	167	189	158	163	202	175	169
Gateshead ...	173	...	154	170	152	186	172	173	208	177	169
Newcastle-on-Tyne	174	174	151	174	157	186	165	177	190	193	170
Cardiff ...	164	153	163	179	141	179	165	150	158	184	141
Large Towns ...	172	167	164	181	152	182	167	176	178	181	172

TABLE XVI.

CAUSES OF DEATH.							Number of Deaths under 1 Year of Age.
Premature Birth ... ..	...	...	...	...	...	...	65
Congenital Defects ... ..	...	...	...	...	...	...	14
Diphtheria ... ..	...	...	...	...	...	...	5
Scarlet Fever ... ..	...	...	...	...	...	...	1
Measles ... ..	...	...	...	...	...	...	43
Whooping Cough ... ..	...	...	...	...	...	...	17
Diseases of Respiratory System ... ..	...	...	...	...	...	...	122
" Nervous System ... ..	...	...	...	...	...	...	80
" Digestive System ... ..	...	...	...	...	...	...	111
Diarrhoea ... ..	...	...	...	...	...	...	69
Tubercular Meningitis ... ..	...	...	...	...	...	...	18
Other Tubercular Diseases ... ..	...	...	...	...	...	...	5
Violence ... ..	...	...	...	...	...	...	9
Other Diseases ... ..	...	...	...	...	...	...	171

ZYMOTIC DISEASES.—The 2,667 deaths from all causes included 402 from the seven chief zymotic diseases. Of these

162 were attributed to Measles.

11	"	"	"	Scarlet Fever.
81	"	"	"	Diphtheria.
40	"	"	"	Whooping Cough.
25	"	"	"	Enteric Fever.
81	"	"	"	Diarrhoea.
2	"	"	"	Small Pox.

The 402 deaths from zymotic diseases were equivalent to an annual death-rate of 2.06 per 1,000, corresponding exactly with the rate in 1899. The deaths from the principal zymotic diseases in the 33 large towns were equal to an annual rate of 2.50 per 1,000. The rates in the large towns ranged from 1.32 in Halifax, 1.36 in Bradford, 1.38 in Newcastle, and 1.39 in Birkenhead, to 3.65 in Wolverhampton, 3.98 in Salford, 4.33 in Sheffield, and 4.37 in Preston.

SMALL-POX.—Two deaths from this disease were registered, and four cases were notified during the year—three in the first quarter and one in the second quarter. These cases were connected with those referred to in the Annual Report for this year to the Cardiff Port Sanitary Authority.

The first case, M. R., aged 41, a fireman from the s.s. "Wagner," lodging at 25, Evelyn Street, was removed to the Small-pox Hospital on the 9th March, having contracted Small-pox on board this steamer which came into the Bute Docks on February 23rd with a case of Small-pox on board. The patient had, with the rest of the crew, been re-vaccinated on that day, but had been exposed to the infection on board the vessel at least eight days before arriving in this port.

The second case was that of a servant at the Cardiff Hospital for Infectious Diseases. This servant had only been engaged since March 1st, and was the only person in the Hospital not protected by re-vaccination. The patient probably contracted the disease on the 7th of March, as the first symptoms were developed on the 21st. At the time there were two cases of Small-pox in the Small-pox Hospital adjoining the General Hospital for Infectious Diseases, the possibility of the infection having been transmitted in this case by aerial convection from the Small-pox Hospital must not be lost sight of; but a more likely source of infection may be found, in my opinion, in the Disinfecting Apparatus which is temporarily used for all classes of infection, and which is situated within the grounds of the General Hospital.

On the 28th March a case of Small-pox was notified in Coedcae Street, Mrs. J. The disease in this case was probably contracted from M. R., who was removed to Hospital on the 9th March.

The last case in connection with this limited outbreak was that of Mrs. R. T., living in Ferndale Street, who was attacked with Small-pox on the 7th April, and who was removed to the Hospital on the 9th. This person visited and nursed Mrs. J. before her removal to the Hospital on the 28th March, and contracted the disease from her. Sixteen persons known to have been exposed to the infection either by living in the infected houses or by having visited them, were re-vaccinated and entirely escaped an attack, whilst Mrs. R. T., the only person who was subsequently discovered to have visited Mrs. J., and who was not re-vaccinated, was attacked with confluent Small-pox and unfortunately died in the Hospital.

WHOOPIING COUGH.—This disease caused forty deaths as compared with 120 in the preceding year. The deaths registered corresponded to an annual death-rate of 0·25 per 1,000 as compared with 0·45, the average rate in the 33 large towns. The average annual death-rate from Whooping Cough in the ten years 1890—1899 was 0·45 in Cardiff and 0·49 in the large towns for the same period. Of the total number of deaths from Whooping Cough, 17 were amongst infants under one year of age and 37 amongst children under five.

MEASLES.—One hundred and sixty-two deaths were registered from Measles during the year, equivalent to an annual death-rate of 0·80 per 1,000 as compared with a rate of 0·06 in the preceding year, and with 0·34 the average rate in the ten years 1890—1899. The average annual death-rate from Measles in the 33 large towns was 0·43, ranging from 0·01 in Portsmouth to 1·07 in Preston. Of the 162 deaths 57 occurred during the first quarter, 96 during the second quarter, and the remaining nine during the third quarter of the year. 152 of the deaths, or 93·7 per cent. were amongst children under five years of age. The mortality was highest in the East Registration Sub-district, in which locality 48 per cent. of the deaths occurred. Measles therefore assumed epidemic proportions during the first and second quarters of the year, when it was found necessary to exclude from school attendance large numbers of scholars suffering from this disease, and also many children from infected households in the localities chiefly affected. In most cases the attendance at the infant department was alone interfered with. The control of school attendance during an epidemic has generally some effect in checking the spread of Measles. Unfortunately the nature of the disease and the enormous number of cases which occur at such times, within a comparatively short period render the usual means of dealing with epidemics of other diseases inapplicable. Taking the proportion of deaths to cases of Measles at 3 per cent., which is about the average, the 162 deaths would represent 5,400 cases.

Measles is not notifiable under the provisions of the Notification Act, and is moreover highly infectious in the earliest stage of the disease frequently before it is recognised. Children at school are, therefore, often exposed to the infection by contact with those who are suffering from the disease in its initial state. The Medical Officer of Health has means of discovering the prevalence of Measles in his district which, although they are not so efficient as compulsory notification, afford useful information—(1) The School Attendance Officers and the School Teachers send to him a weekly list of the absentees from school through illness; (2) The District Medical Officers of the Union also supply when required a list of new cases of infectious illness under their care; (3) The examination of the returns of deaths supplied weekly by the District Registrars.

From the above it may be inferred that should Measles be included amongst the list of notifiable diseases less influence would be exerted upon the spread of the disease than in the case of such diseases as Small-pox, Scarlet Fever, or Diphtheria, and a very considerable increase of expenditure would be incurred.

SCARLET FEVER.—Eleven deaths were registered from this disease equivalent to an annual death-rate of 0·05 per 1,000. The Scarlet Fever death-rate averaged 0·13 per 1,000 in the 33 large towns, being considerably below the average in the ten preceeding years, ranging from 0·01 in Plymouth, 0·04 in Croydon, and 0·05 in West Ham; to 0·29 in Preston, 0·36 in Oldham, 0·45 in Salford, 0·48 in Burnley, and 0·61 in Blackburn.

The average annual death-rate from Scarlet Fever during the ten years 1890-1899 was 0·17 per 1,000 in Cardiff, and 0·21 in the large towns for the same period.

The total number of cases of Scarlet Fever notified within the Borough in each year since the adoption of the Infectious Diseases Notification Act, and the proportion of deaths to such cases were as follows:—

Year.	Cases Notified.	Deaths.	Mortality per cent. of Cases Notified.
1890	335	19	5·6
1891	685	35	5·0
1892	1,851	87	4·7
1893	316	39	4·7
1894	577	8	1·3
1895	484	8	1·6
1896	874	28	3·2
1897	758	17	2·2
1898	332	8	2·4
1899	184	3	1·6
1900	383	11	2·8

With respect to the season of the year, the relation of notifications and deaths was as follows:—

1899.	No. of Notifications.	No. of Deaths.	Mortality per cent.
First Quarter	79	4	5·0
Second Quarter	89	2	2·2
Third Quarter	80	1	1·2
Fourth Quarter	135	4	2·9

The local incidence of the disease in each quarter of the year, as shown by the notifications in the Registration sub-districts, was as follows:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Totals.
West Cardiff	27	32	22	53	134
Central Cardiff	22	23	29	45	119
East Cardiff	30	34	29	37	130
Total	79	89	80	135	383

The following is the number of cases of Scarlet Fever notified since 1895, together with the proportion of such cases removed to hospital:—

Year	No. of Cases reported.	Proportion removed to Hospital.
1895	484	43 per cent.
1896	874	48 „
1897	758	50·7 „
1898	332	56 „
1899	184	66 „
1900	383	65·2 „

Two hundred and fifty, or 65·2 per cent. of the cases notified were removed to the Borough Hospital for Infectious Diseases.

From the above it will be seen that there was an increased prevalence of Scarlet Fever as compared with the previous year, and that the proportion of cases removed to the Hospital has shown a steady increase since the opening of this institution in 1895. Doubtless to this may be attributed in some measure the extremely low case mortality of 2·8 per cent. for the entire number of cases notified, and 1·8 per cent. for the cases treated in the Hospital. The conditions of life and surroundings of those treated at home amongst the poorer classes of the community and the want of proper care during convalescence, are largely responsible for the higher rate of mortality amongst such cases. It must not, however, be supposed that hospital isolation will ever completely eradicate such a disease as Scarlet Fever from large towns. The returns from these places do not, unfortunately, warrant any such hope, but it is obvious that the removal from populous districts of so many centres of infection must materially diminish the amount of disease. Besides limiting the spread of infectious illness, the removal of children to hospital has an advantage from an educational point of view, as the attendance at school of children from infected houses is in such cases only interfered with to a very slight extent and for a few days, whereas when the infected person is treated at home all children liable to contract the disease are prevented from attending school until the house is free from infection. This, in the case of Scarlet Fever, actually means a period of at least six weeks, and in the event of other cases occurring during the convalescence of the first patient a still longer period.

The cases of Scarlet Fever were distributed somewhat evenly over all parts of the town, with a tendency to increase in the west and central districts during the fourth quarter of the year. The preventive measures which have been carried out by the Sanitary Authority with a view of checking the spread of the disease comprise—(1) compulsory notification of cases; (2) control of school attendance; (3) regulation of milk supply; (4) regulation of workshops in which wearing apparel is made; (5) hospital isolation; (6) disinfection carried out by the officers of the Sanitary Authority.

DIPHTHERIA.—Eighty-one deaths were registered from Diphtheria, as compared with 61 in 1899 and with 129 in 1898. The number of deaths was equivalent to an annual death-rate of 0·41 per 1,000. This rate has fluctuated considerably during recent years, reaching a maximum of 0·68 per 1,000 in 1893. In 1894 it declined to 0·46, and in 1895 to 0·36, rising again in 1896 to 0·37, in 1897 to 0·53, and in 1898 to 0·72, a further decline taking place in 1899, when the rate was 0·32 per 1,000. In the year under consideration the Diphtheria death-rate in the 33 large towns averaged 0·35 per 1,000, ranging from 0·02 in Huddersfield, 0·05 in Gateshead, 0·06 in Derby, 0·08 in Hull, and 0·09 in Birkenhead, to 0·59 in Leeds, 0·65 in Blackburn, 1·26 in Sheffield, and 1·51 in Leicester.

The average death-rate from Diphtheria in the ten years 1890-99 was 0·40 in Cardiff, as compared with 0·33, the average rate in the large towns for the same period.

The following table shows the comparative mortality from Diphtheria in 1900 in various parts of the country, and particularly in large centres of population in South Wales:—

Death-rate from Diphtheria per 1,000 persons living in 1900:—

	Year, 1900.				
England and Wales	0·29
London	0·34
33 Great Towns	0·35
67 other Large Towns	0·29
Swansea	0·58
Merthyr	0·53
Aberdare...	1·09
Rhondda...	0·86
Cardiff	0·42

The number of cases of Diphtheria reported to the Sanitary Authority in 1900 amounted to 706. The proportion of deaths to such cases would, therefore, be 11·4 per cent.—an exceedingly low rate of mortality. This rate was reduced still further (to 8·1 per cent.) amongst the cases admitted into the Borough Hospital. 384 cases of Diphtheria were admitted to the Hospital during the year, being 54 per cent. of the cases notified, as compared with 23 per cent. in 1898, and 48 per cent. in 1899.

It is not easy to account for this low rate of fatality amongst the cases of Diphtheria occurring in the district. It can hardly be ascribed altogether to the increasing use of antitoxine as a remedy, although probably this may account for the slightly lower rate in the cases treated in the hospital as compared with those who remained in their homes. Probably no patients could be under more favourable conditions of treatment than those in the Hospitals of the Metropolitan Asylums Board, and yet we find from the reports of the Medical Superintendents of these Hospitals—that in the year 1895, out of 2,182 cases of diphtheria treated with antitoxine, 615 deaths occurred, giving a fatality of 28·1 per cent. at all ages, as compared with a fatality of 29·6 per cent. in 1894 before the antitoxine treatment was commenced. Again quoting from the Annual Report of the Medical Officer of Health for Huddersfield, for the year 1899, relating to Diphtheria, it is stated that in the years 1894 and 1895, before the use of antitoxine, the case mortality was 75 and 56 per cent. respectively. In 1896, when the use of antitoxine had just commenced, the case mortality was 60 per cent. In 1897, 1898 and 1899, when the antitoxine treatment had become general the case mortality was 37, 39 and 20 per cent. respectively. It would appear, therefore, that we have to deal with an unusually mild form of the disease in Cardiff. Diphtheria was somewhat evenly distributed throughout all parts of the town—the cases notified ranging from 1·9 per 1,000 persons living in the Riverside Ward to 5·9 per 1,000 in the Park Ward.

DIPHTHERIA, 1900.

WARD.	Cases reported. per 1,000.				Death-rate per 1,000.	
Central	4·42	...	0·31
South	3·57	...	0·93
Cathays	5·65	...	0·09
Park...	5·97	...	0·11
Adamsdown	3·77	...	0·14
Riverside	1·92	...	0·10
Canton	2·23	...	—
Roath	4·43	...	0·18
Grangetown	2·86	...	2·28*
Splott	3·85	...	0·17

*Including deaths at Sanatorium.

DIPHTHERIA, 1900.

Age Periods of Reported Cases.			1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under three years	...	...	21	21	17	17	76
Three and under thirteen	...	...	96	94	143	134	467
Thirteen and under twenty-five	...	...	34	26	15	29	104
Twenty-five and upwards...	...	...	19	10	12	18	59
Total	...	...	170	151	187	198	706

DIPHTHERIA, 1900.—AGE PERIODS OF REPORTED CASES IN VARIOUS WARDS.

WARD.	Total number of Cases of all Ages.	Under Three Years. Percentage.	Three and under Thirteen. Percentage.	Thirteen and under Twenty- five. Percentage.	Twenty-five and upwards. Percentage.
Central ...	51	5·8	58·8	21·5	13·7
South ...	150	12·6	81·3	2·6	3·0
Cathays ...	37	10·8	40·5	10·8	16·2
Park ...	67	7·4	52·2	25·3	14·9
Adamsdown ..	53	20·7	67·9	3·7	7·5
Riverside ...	46	13·0	58·6	10·8	17·3
Canton ...	56	10·7	62·5	21·4	3·5
Roath ...	59	6·7	64·4	18·6	10·1
Grangetown ...	117	15·3	63·2	11·1	13·6
Splott ...	70	22·8	58·5	12·8	5·7

From the enclosed tables it will be seen that the largest proportion of cases of diphtheria occurred amongst children between the ages of three and thirteen years. Of the entire number notified 467 or 66·1 per cent. were at these ages, whilst only 8·3 per cent. were amongst persons of twenty-five years of age and upwards.

Taking the attack rate or proportion of cases of diphtheria notified at certain ages to persons living at those ages for the year under consideration, this rate was in Cardiff 5·9 per 1,000 persons living under twenty-five years of age, against 0·6 per 1,000 living over that age. Diphtheria is therefore pre-eminently a disease of early life, it is moreover a much more fatal disease at this period. On referring to the table in the appendix of this Report, it will be found that all the deaths from diphtheria during this year occurred amongst persons under twenty-five years of age.

The age distribution of the cases reported varied considerably in the different Wards in the town. The proportion of cases at twenty-five years of age and upwards to the total number notified at all ages ranged from 3·0 per cent. in the South Ward, 3·5 in the Canton Ward, and 5·7 in Splott Ward; to 16·2 per cent. in the Cathays Ward, and 17·3 per cent. in the Riverside Ward, whereas the proportion of cases reported under three years of age ranged from 6·7 per cent. in the Roath Ward to 22·8 per cent. in the Splott Ward. At the ages between three and thirteen years the proportion ranged from 40·5 per cent. in the Cathays Ward to 81·3 in the South Ward. We find, therefore, that the mortality was comparatively high in the latter Ward.

Diphtheria being a highly infectious disease and a disease falling chiefly upon young persons, it is obvious that conditions leading to an increased aggregation of the population of a community and to an unduly large proportion of children at susceptible ages, would favour the spread of the disease, and it would seem almost as if there were a definite relation between rapidly increasing populations and epidemic diphtheria. This will become perhaps more apparent by a reference to the Annual Report of the Registrar-General for 1898, taken in conjunction with some remarks contained in the preliminary report of the Census of 1891. In the Registrar-General's report the following remarks by Dr. John Tatham occur under the heading "Diphtheria":—"Compared with the average in extra Metropolitan England, there were in 1898 17 counties which showed excessive Diphtheria mortality. Arranged in decreasing

order of fatality the nine counties with the highest rates stand as follows:—South Wales, Kent, Rutlandshire, Essex, London, Monmouthshire, Bedfordshire, Middlesex, and Staffordshire. In the census report the following statement occurs:—"Speaking generally, the counties in which the rates of increase in the population were highest were counties which are largely affected by the presence of London, namely, Essex, Surrey, and in a lesser degree Middlesex and Kent, or counties in which coal mining is the predominant industry, such as Glamorganshire, Monmouthshire, Durham, and Northumberland. . . . There was a decline in the population in no less than nine of the twelve Welsh counties, but, notwithstanding this, so great was the growth in Glamorganshire that the rate of increase for Wales as a whole was almost precisely the same as for England." The abnormally high death-rate from Diphtheria in recent years in South Wales was mainly in those districts in which the increase in the population was the greatest, namely, Cardiff, Rhondda, Merthyr Tydfil, Aberdare, and Swansea.

Taking these five districts as an aggregate, their Diphtheria death-rate in 1898 (the year in which Diphtheria was epidemic) was approximately 900 per million, the remainder of South Wales having experienced a rate almost identical with the average in England and Wales, namely, 240 per million.

The relation of Diphtheria to insanitary surroundings is by no means clear. The late Sir Richard Thorne believed that the influence of such conditions, although greatly exaggerated, was not to be ignored. During the past twenty years enormous sums of money have been spent in providing one of the purest Water Supplies in the Kingdom, in Sewage Works, in Isolation Hospital, and in Sanitary administration. All these things appear to have had a most favourable effect upon Enteric Fever and upon Scarlet Fever and other diseases, but to have done little towards the prevention of Diphtheria. I have been unable to trace any connection between defective house drainage and this disease; in many infected houses such defects existed, but not in any larger proportion than in those which were not infected. It seems probable, however, that foul emanations from sewer ventilators may produce in some persons inflammatory condition of the throat which renders them peculiarly susceptible to the infection of Diphtheria.

The well-known condition of the Western Sewer may, therefore, be responsible for the somewhat greater prevalence of Diphtheria, which has at times been noticeable in the districts through which this sewer runs. The Corporation are now applying to Parliament for powers to carry out Sewerage Works, comprising a new outfall-sewer into the Bristol Channel, near Lavernock, which, when complete, will have the effect of relieving the congested condition of the sewers of the Western District.

ENTERIC FEVER.—Twenty-five deaths from Enteric Fever were registered during the year as compared with 19 in the previous year. The number of deaths was equivalent to an annual death-rate of 0·12 per 1,000 persons living, as compared with 0·10 the rate in 1899 and 1898. The death-rate from "fever," mainly Enteric, in the 33 large towns, was 0·20 per 1,000, and corresponded with the average rate in the ten preceding years 1890-1899. The average death-rate from Enteric Fever in Cardiff for the same period was 0·13 per 1,000.

For the year under notice the "fever" death-rate in the large towns ranged from 0·07 in Croydon, 0·08 in Gateshead and in Newcastle, and 0·09 in Brighton; to 0·37 in Sunderland, 0·39 in Preston, 0·45 in Wolverhampton, and 0·47 in Portsmouth.

Amongst the houses in which Enteric Fever occurred 29 were found to have defective sanitary arrangements; these were remedied without delay under the supervision of the Inspectors of Nuisances.

Of the 95 cases notified during the year five were imported into the town from outside the district, and 19 were secondary cases occurring in the same house.

The comparatively low mortality from this disease which this town has enjoyed during the past eight years is satisfactory evidence of the value of the improvements carried out by the Sanitary Authority since the passing of the Public Health Act, 1875.

Enteric Fever showed no undue incidence upon any particular part of the town, and there was no reason to suspect that any general insanitary condition was in any way responsible for the cases which occurred. Most of them appeared to be sporadic cases scattered indiscriminately over the different districts of the town. Advantage has been taken of the Public Health Laboratory by medical practitioners in cases of illness suspected to be enteric fever, and in many instances specimens of serum have been submitted to the test known as 'Widals' reaction. The results of these examinations are given in the Annual Report of the Bacteriologist incorporated in this report.

The number of cases of Enteric Fever notified within the Borough, and the mortality during each year, since the adoption of the Infectious Diseases Notification Act, is given below :—

Year.		Cases Notified.		No. of Deaths.		Percentage Mortality.
1890	...	152	...	23	...	15·1
1891	...	130	...	26	...	20·0
1892	...	118	...	24	...	20·3
1893	...	103	...	18	...	17·4
1894	...	62	...	7	...	11·2
1895	...	79	...	14	...	17·7
1896	...	74	...	13	...	17·5
1897	...	117	...	20	...	17·0
1898	...	80	...	17	...	21·2
1899	...	94	...	19	...	20·2
1900	...	95	...	25	...	26·3

Age incidence of the disease.

Age Periods.		Cases Reported.		Deaths.
0—5	...	8	...	2
5—15	...	33	...	7
15—25	...	25	...	4
25—65	...	28	...	12
65 upwards	...	1	...	0

The Seasonal Incidence of Typhoid Fever upon the various Wards in the Borough, and upon the Public Institutions, was as follows in 1900 :—

WARD.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.	Cases Notified.	Deaths.
Central ...	3	1	...	...	...	...	1	...
South ...	1	...	...	...	4	...	2	...
Cathays ...	4	...	...	...	1	...	1	...
Park ...	...	1	2	1	7	...	2	2
Adamsdown ...	...	...	9	1	...	...	1	...
Riverside ...	...	...	...	...	4	1	1	...
Canton ...	1	...	...	...	...	1	1	...
Roath ...	2	...	3	...	3	...	2	...
Grangetown ...	3	...	3	1	10	...	7	2
Splott ...	...	...	2	...	4	1	5	...
Union Workhouse ...	...	...	2	...	1	1	1	...
Seamen's Hospital ...	...	...	...	...	...	...	...	...
Sanatorium ...	...	3	...	1	...	3	...	4
Infirmery ...	...	...	1	1	...	...	1	...
Totals ...	14	5	22	5	34	7	25	8

FEVER MORTALITY (including Typhus, Typhoid and Continued Fevers).—

Death-rates per 1,000 of the Population.

	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
England & Wales	0·18	0·18	0·18	0·18	0·15	0·22	0·16	0·17	0·17	0·61	0·18	0·20	—
33 Large Towns...	0·20	0·20	0·19	0·20	0·15	0·24	0·19	0·20	0·19	0·18	0·20	0·22	0·20
Cardiff ...	0·33	0·25	0·19	0·19	0·19	0·12	0·04	0·10	0·08	0·11	0·09	0·10	0·12

DIARRHOEA.—The deaths from Diarrhoea numbered 81 as compared with 169 in the previous year, and with 149 in 1898. The mortality was equal to an annual rate of 0·41 per 1,000, against an average of 0·87 for the ten years 1890-1899. The average death-rate in the 33 large towns was 0·94 per 1,000 as compared with 0·96 the average rate in the years 1890-1899.

The lowest diarrhoeal death-rates in the large towns were 0·23 in Halifax, 0·29 in Bradford, 0·37 in Newcastle-upon-Tyne, and 0·42 in Cardiff. The highest rates were 1·44 in Liverpool, 1·52 in Sheffield, 1·67 in Preston, and 1·68 in Hull.

The distribution of diarrhoeal mortality in Cardiff according to the season of the year and the various age periods were as follows :—

Deaths from Diarrhoea.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Under one year	1	2	55	11	69
One and under five ... ..	...	...	4	1	5
Five and under fifteen ... ..	...	...	1	...	1
Fifteen and under twenty-five ... ..	...	...	...	...	...
Twenty-five and under sixty-five ... ..	...	...	1	2	3
Sixty-five years and upwards ... ..	...	...	1	2	3
Total	1	2	62	16	81

The relation between the temperature of the air, rainfall, and the diarrhoea mortality during the third quarters of the ten years 1891-1900 is shewn in the following table :—

3rd Quarters. Year.	Death-rate per 1,000.	Mean Temperature.	Rainfall.
1891	0·8	57·8	11·83-in.
1892	2·3	60·4	12·42 „
1893	2·5	61·8	8·96 „
1894	0·5	57·0	10·99 „
1895	2·5	59·5	9·96 „
1896	2·4	58·9	11·37 „
1897	2·6	59·3	14·30 „
1898	2·6	60·3	5·82 „
1899	3·2	63·3	5·37 „
1900	1·2	59·7	6·06 „

From the preceding table it will be seen that of the 81 deaths from diarrhoea during the year 62 occurred in the third quarter of the year, of which 55 took place amongst children under one year of age. Amongst those under one year 22 were under three months old, 11 were between the ages of three and six months, and 23 between the ages of six and twelve months. The mortality during the past summer and autumn was, therefore, below the average at this time of the year, owing doubtless to the comparatively cool weather. It will be seen from the Meteorological Tables that the mean temperature of the third quarter of the year was low. It must be mentioned also that during the year 94 deaths were registered from Gastritis and Enteritis, and that 60 of these occurred amongst children under one year of age mostly in the third quarter of the year. As pointed out in previous reports, many of the deaths of infants from Gastritis and Enteritis should more correctly be classed with diarrhoea and placed amongst the zymotic group instead of being classed as at present amongst affections of the digestive system. With the object of obtaining a more uniform system of death certificates in these cases, the Incorporated Society of Medical Officers of Health have drawn up the following memorandum on the subject, copies of which have been issued to all the medical practitioners in the district :—

THE INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH,
197, HIGH HOLBORN, LONDON, W.C.

MEMORANDUM ON CERTIFICATION OF "DIARRHŒA" DEATHS.

To Registered Medical Practitioners in England, Scotland, Ireland, and Wales.

Much confusion having arisen from the numerous synonyms, unauthorised by the Royal College of Physicians, which for some years past have been increasingly used in the certification of deaths from "diarrhœa"—the "epidemic diarrhœa" of the *Nomenclature of Diseases*—the Incorporated Society of Medical Officers of Health is desirous of calling the attention of all medical practitioners to a decision which has been arrived at by that College authorising the use of the term "epidemic enteritis" (or, if preferred by the practitioner, "zymotic enteritis") as a synonym for epidemic diarrhœa (*Nomenclature of Diseases*, p. 9, ed. 1896); and urging the entire disuse, as synonyms of epidemic diarrhœa in medical certificates of death, of such terms as "gastro-enteritis," "muco-enteritis," "gastric catarrh," etc.

The confusion arising from the present practice in certification so seriously vitiates the accuracy of all statistics with regard to this disease, which is recognised by the Royal College of Physicians to be a *general disease of specific character* in the same sense as enteric and other fevers, that this Society desires to strongly urge medical men to strictly adhere to these authoritative decisions which the College has now published.

In future the only authorised names to be used in certifying deaths from this disease are: *epidemic enteritis*, *zymotic enteritis*, or *epidemic diarrhœa*, and all other synonyms are to be entirely discarded.

The late Dr. Ballard showed that this *specific* disease occurs in persons of all ages, and that it may happen in other than epidemic seasons, under which circumstances the Society would suggest the advisability of the employment of the alternative term, *zymotic enteritis*.

JOHN C. McVAIL, M.D., *President*.

FRANCIS J. ALLAN, M.D., }
HENRY KENWOOD, M.B., } *Hon. Secretaries.*

November, 1900.

TUBERCULOSIS.—The precautionary measures, including the circulation of pamphlets and memoranda containing a short description of the methods of preventing the spread of Tuberculosis have been continued during the year. From the table in the appendix of this Report it will be noticed that no less than 212 deaths were registered from Phthisis alone, giving a death-rate of 1·09 per 1,000 of the population, and with the exception of that from Pneumonia, this was the highest rate of any single disease.

If the other forms of Tuberculosis be included, the deaths from these allied diseases amounted to 322, or 12 per cent. of the total deaths from all causes during the year. Disinfection was carried out by the officers of the Sanitary Authority, at the request of medical practitioners or relatives of the patient, in 84 cases.

These results cannot be regarded as altogether satisfactory, but it is hoped that with an improved system of notification, with further developments in our methods of disinfection, more advantage will be taken of the offers of assistance of the Sanitary Authority. Your Sanitary Committee has appointed Alderman T. W. Jacobs (Chairman), Councillors J. Jenkins, R. Hughes, and the Medical Officer of Health, to attend the British Congress on Tuberculosis, which will be held in London from Monday, July 22nd, to Friday, July 26th. Amongst the subjects which will be considered at the Congress are the following:—

(1) The Notification of Tuberculosis; (2) The Influence of Housing and Aggregation; (3) The Influence of Cleanliness and Ventilation; (4) Control of Meat and Milk Supplies; (5) The Tuberculin Test; (6) The Provision of Sanatoria; (7) The Influence of Climate on the Treatment of Consumption; (8) Bacteriological Diagnosis.

PLAGUE.—On September 19th, 1900, the Local Government Board, by order, extended the provision of the Infectious Diseases Notification Act to the notification of every case of Plague occurring in the district of the Sanitary Authority.

In connection with a case of Plague which occurred in this neighbourhood, and which was dealt with by your Sanitary Authority, I submitted the following report:—

"On October 2nd, a case of Plague was admitted into the Temporary Wards of the Borough Hospital for Infectious Diseases from the Llandaff and Dinas Powis Rural District under the following circumstances:—Dr. Pritchard, the Medical Officer of Health for this district, informed me that his attention had been called by a notification from Dr. J. Evans, of Canton, to a Sailor living in 53, Glamorgan Street, who was supposed to be suffering from Typhoid Fever. The history of the case and the appearance of the patient suggested to him that the disease from which the man was suffering might be Plague, and he asked me to see the case with him. As in these cases a bacteriological examination is very desirable, I requested Dr. W. G. Savage, the Bacteriologist of our Public Health Laboratory, to meet us at the house, and, after a consultation, which took place about 4 o'clock in the afternoon of the 2nd inst., we considered that a provisional diagnosis of Bubonic Plague was justified, and that immediate steps for isolating the patient should be taken. As by a resolution of your Committee patients suffering from infectious diseases in the Llandaff District are admitted into the Borough Hospital, this man was at once removed there, and placed under the care of Dr. Fitzgerald, the acting Medical Superintendent. The following history was obtained from the wife of the patient, and from another sailor on the same vessel:—The s.s. "Southgarth" left Rosario about August 20th, calling at St. Vincent, arrived at King's Lynn, Norfolk, on September 12th, discharged a cargo of maize and proceeded to South Shields on the 21st, arriving at that port on the 22nd September. During the voyage three or four of the firemen were taken ill, but apparently the illness from which they suffered was not considered to be at all serious, and was attributed to the high temperature which was experienced shortly after leaving Rosario. On the day after the vessel arrived at King's Lynn, the Third Engineer was taken seriously ill and removed to a Hospital on shore. The Medical Officer of Health of this place believed that the man was suffering from Typhoid Fever, but as yet no further particulars of this case have come to hand. On the 21st September, W. G., the Donkeyman, was taken ill, and on the 24th he proceeded to North Shields and Newcastle, and from thence to his home in Glamorgan Street, Llandaff, where he arrived on the morning of the 27th. In the afternoon of that day Dr. J. Evans was called to see him, and he attended him until the time of his removal to the Hospital on October 2nd. It is right to state that in the early stage of Plague the symptoms closely resemble those of Typhoid Fever, and that at this period the two diseases are frequently indistinguishable. The promptitude with which Dr. Pritchard acted upon his suspicions as to the nature of the disease will doubtless be the means of removing any anxiety as to the spread of infection. On the admission of the patient into the Hospital it was obvious that there was little chance of his recovery, and he died on the morning of the 4th October. In the interests of Public Health, I considered that it was desirable that the remains of the deceased should be cremated, and the consent of the wife having been obtained, the body was removed to the Flat Holm Island, and, after a post-mortem examination, was cremated on the 5th inst., under my superintendence, by Mr. Knight, the Engineer, at the Sanatorium. Dr. Williams, Medical Officer of the Glamorgan County Council, Dr. W. G. Savage, and Dr. Fitzgerald were also present. I may add that the dangerous and unpleasant duty of making a post-mortem examination in this case devolved upon Drs. Fitzgerald and Savage. The remains of the deceased, consisting of ashes, were placed in a suitable urn, and will be handed over to the widow, who will have them conveyed to the Cemetery in order that the burial service may be performed. I herewith append the Clinical Notes of this case

supplied by the Acting Medical Superintendent of the Hospital and the result of the post-mortem examination, together with the results of the bacteriological examination, and I have to acknowledge the very great advantage which was obtained on this occasion by the examination made in our Public Health Laboratory. The first clue to the nature of the disease was Dr. Savage's preliminary Report presented to me at 10.30 a.m., on October 3rd, in which he states that the bacteriological evidence points very strongly in favour of the case being Plague. This opinion he completely completely confirmed by further experiments. At the request of the Medical Officer of the Local Government Board, after the post-mortem examination had been made, I forwarded some material to Dr. Klein, of St. Bartholomew's Hospital, the Bacteriologist to the Board, and at 1.30 p.m. on the 6th October received a telegram from the Medical Officer that Dr. Klein's examination confirmed the diagnosis of Plague. Immediately after the reception of the patient into the Borough Hospital I sent a telegram to the Medical Officer of Health of South Shields informing him of the circumstances, and received a reply to the effect that on the arrival of the vessel at that port the Captain reported that there had been no illness on board during the voyage, and that all the crew were well. I found on inquiry that some of the crew of the s.s. "Southgarth" had come to Cardiff from South Shields by train. At the present time two only are staying in this neighbourhood; they have both been examined by me, and found in good health. As these men have not been in contact with the man who suffered from Plague since he left the vessel on September 24th, there is no chance of any spread of infection from this source, as the usual incubation period of the disease is from two to eight days, and the extreme limit is stated to be ten days. Although I find on enquiry that no persons resident within the Borough have visited the infected house, I am making an inspection of the localities abutting upon this part of the Rural District in view of the possibility of any spread of the disease. I should add that as up to the present those who have been in close contact with the infected person are still in good health, there is good ground for hoping that those also who have been less closely associated have escaped all danger of infection, and that no further spread of the disease will occur."

TABLE XVII.—33 Towns.—Death-rates per 1,000 living from All Causes, and from the Principal Zymotic Diseases, and Infant Mortality, in the Ten Years 1890-99, and in 1900. Compiled from the Registrar-General's Annual Summary.

Cities and Boroughs.	All Causes.		Small-pox.		Measles.		Scarlet Fever.		Diphtheria.		Whooping Cough.		Fever.		Diarrhea.		Deaths under one year to 1,000 Births.	
	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.	Ten years 1890-99.	1900.
33 Towns ...	20.3	19.5	0.01	0.00	0.58	0.43	0.21	0.13	0.33	0.35	0.49	0.45	0.20	0.20	0.96	0.94	172.1	172
London ...	19.8	18.8	0.01	0.00	0.62	0.42	0.20	0.08	0.49	0.34	0.53	0.43	0.15	0.17	0.74	0.78	160	160
West Ham ...	17.3	15.9	0.05	—	0.63	0.48	0.18	0.05	0.51	0.50	0.51	0.59	0.22	0.18	0.89	1.30	189	189
Croydon ...	14.7	14.6	0.00	—	0.34	0.15	0.06	0.04	0.29	0.18	0.38	0.44	0.09	0.07	0.59	0.56	137	132
Brighton ...	17.7	17.8	—	—	0.37	0.43	0.06	0.10	0.20	0.58	0.30	0.26	0.13	0.09	0.81	0.76	166	166
Plymouth ...	17.5	17.3	0.00	—	0.49	0.01	0.11	0.06	0.23	0.51	0.31	0.46	0.25	0.47	0.95	0.85	158	155
Pennmouth ...	20.2	20.8	0.01	—	0.55	0.38	0.16	0.01	0.13	0.11	0.45	0.12	0.13	0.21	0.73	0.97	172	175
Plymouth ...	18.4	16.7	0.02	—	0.46	0.62	0.18	0.12	0.14	0.31	0.46	0.17	0.11	0.13	0.63	0.53	149	133
Bristol ...	17.6	16.7	0.02	—	0.46	0.62	0.18	0.12	0.14	0.31	0.46	0.17	0.11	0.13	0.63	0.53	149	133
Cardiff ...	47.6	13.8	0.00	0.01	0.34	0.84	0.17	0.06	0.40	0.42	0.45	0.21	0.13	0.12	0.87	0.42	164	141
Swansea ...	18.9	17.1	0.00	—	0.54	0.64	0.29	0.09	0.35	0.58	0.45	0.15	0.17	0.15	0.42	0.58	165	175
Wolverhampton ...	22.1	22.5	0.01	0.01	0.96	0.82	0.25	0.09	0.34	0.10	0.37	0.79	0.27	0.45	1.37	1.39	191	206
Birmingham ...	20.9	21.5	0.05	—	0.49	0.25	0.20	0.19	0.25	0.14	0.51	0.58	0.18	0.35	1.23	1.21	186	199
Norwich ...	18.9	17.6	—	—	0.38	0.01	0.11	—	0.21	0.10	0.42	0.59	0.26	0.12	1.00	1.26	180	178
Leicester ...	18.1	17.4	0.01	—	0.43	0.23	0.23	0.13	0.27	1.51	0.36	0.21	0.18	0.12	1.52	1.34	197	175
Nottingham ...	18.7	19.1	0.00	—	0.41	0.18	0.20	0.22	0.08	0.12	0.37	0.42	0.29	0.33	1.11	1.08	179	196
Derby ...	17.3	17.5	0.02	—	0.39	0.90	0.13	0.20	0.11	0.06	0.36	0.48	0.19	0.19	0.76	0.47	156	174
Birkenhead ...	19.4	16.8	0.00	—	0.52	0.09	0.15	0.03	0.23	0.09	0.47	0.24	0.32	0.14	0.83	0.80	171	160
Liverpool ...	25.7	25.7	0.01	0.03	0.63	0.23	0.40	0.17	0.20	0.26	0.59	0.84	0.34	0.21	1.32	1.44	192	186
Bolton ...	22.0	19.5	0.01	—	0.70	0.23	0.24	0.12	0.10	0.12	0.58	0.68	0.30	0.27	1.38	1.15	180	171
Bolton ...	24.3	24.1	0.01	—	0.81	0.47	0.28	0.19	0.18	0.18	0.56	0.68	0.24	0.14	1.23	1.39	189	189
Manchester ...	24.2	25.1	0.01	0.00	0.35	0.56	0.37	0.45	0.34	0.41	0.71	0.84	0.38	0.31	1.54	1.41	208	207
Salford ...	21.1	19.6	0.09	0.02	0.66	0.71	0.21	0.36	0.15	0.13	0.45	0.53	0.15	0.11	0.70	0.58	183	172
Oldham ...	20.2	16.3	0.01	—	0.47	0.14	0.25	0.48	0.26	0.13	0.40	0.36	0.25	0.14	1.34	1.22	212	205
Burnley ...	21.2	20.5	0.01	0.01	0.76	0.57	0.11	0.61	0.12	0.65	0.41	0.45	0.26	0.22	1.31	1.01	220	220
Blackburn ...	23.7	24.0	0.00	—	0.72	1.07	0.18	0.29	0.12	0.38	0.44	0.57	0.31	0.39	2.11	1.67	296	286
Preston ...	17.6	16.8	0.00	—	0.33	0.55	0.19	0.16	0.12	0.02	0.36	0.18	0.14	0.18	0.41	0.43	156	132
Huddersfield ...	18.8	18.1	0.06	—	0.37	0.50	0.16	0.17	0.15	0.13	0.29	0.07	0.17	0.22	0.32	0.28	158	132
Halifax ...	19.1	16.4	0.07	—	0.42	0.39	0.25	0.25	0.08	0.11	0.38	0.07	0.16	0.23	0.91	0.29	174	141
Bradford ...	20.3	20.0	0.01	0.00	0.49	0.58	0.18	0.12	0.23	0.26	0.40	0.38	0.21	0.20	1.09	1.05	183	183
Leeds ...	21.4	22.6	0.00	—	0.58	0.55	0.28	0.17	0.29	1.26	0.50	0.55	0.24	0.28	1.35	1.52	184	200
Sheffield ...	19.7	19.7	0.07	0.03	0.45	0.38	0.17	0.16	0.12	0.08	0.38	0.31	0.24	0.21	1.45	1.68	176	188
Hull ...	21.9	21.4	0.01	—	0.56	0.59	0.21	0.27	0.07	0.15	0.46	0.20	0.52	0.37	1.23	1.45	175	169
Sunderland ...	19.7	19.0	0.01	—	0.55	0.14	0.21	0.07	0.13	0.05	0.52	0.56	0.22	0.08	1.07	0.85	173	169
Gateshead ...	20.6	19.5	0.00	—	0.53	0.39	0.13	0.07	0.18	0.14	0.48	0.33	0.16	0.08	0.73	0.37	174	170

TABLE XVIII.

Death-rate per 1,000 from all causes and from zymotic diseases in Cardiff and in 33 large towns :—

	Ten Years—1890-99.		Year 1900.	
	Cardiff.	33 Large Towns.	Cardiff.	33 Large Towns.
All Causes	17·6	20·3	13·7	19·5
Small Pox	0·00	0·01	0·01	0·00
Measles	0·34	0·58	0·80	0·43
Scarlet Fever	0·17	0·21	0·06	0·13
Diphtheria	0·40	0·33	0·41	0·35
Whooping Cough	0·45	0·49	0·25	0·45
*Fever	0·17	0·20	0·12	0·20
Diarrhœa	0·87	0·96	0·41	0·94

* Chiefly Typhoid, but including Typhus and simple or ill-defined continued fevers.

TABLE XIX.

Cases of Infectious Diseases notified in the Cardiff Urban Sanitary District since the adoption of the Infectious Disease Notification Act, 1899 :—

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900
Small Pox	—	9	5	4	10	1	45	7	—	—	4
Diphtheria	63	67	155	462	326	229	296	512	940	628	706
Croup	9	3	9	17	17	19	10	4	20	12	8
Scarlet Fever	335	685	1,851	816	577	484	874	758	332	184	383
Enteric Fever	152	130	118	105	62	79	74	117	80	94	95
Typhus Fever	—	—	—	41	1	—	1	—	—	—	4
Erysipelas	45	52	95	152	135	132	134	163	133	176	106
Puerperal Fever	4	10	12	24	19	17	21	12	18	13	15
Total	608	956	2,245	1,621	1,147	961	1,455	1,573	1,523	1,107	1,321

TABLE XX.—Analysis of Deaths in the Municipal Borough of Cardiff in the Registration Sub-districts, and in each Ward in the Borough during the Year, 1900.

LOCALITIES.	Population, 1900.	Area in Acres.	Persons per Acre.	Total Births.	Birth-rate.	Total Deaths.	Deaths under One Year per 1,000 Births Registered.	Zymotic Diseases.		Principal Zymotic Diseases.										Diseases of Respiratory Organs.												
								Deaths.	Death-rate.	Small Pox.	Deaths.	Death-rate.	Measles.		Scarlatina.		Diphtheria.		Whooping Cough.	Typhoid Fever.		Typhus Fever.	Diarrhoea.	Deaths.	Death-rate.	Tubercular Meningitis, and other forms of Tuberculosis.	Phthisis.		Deaths.	Death-rate.		
													Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.		Deaths.	Death-rate.						Deaths.	Death-rate.			Deaths.	Death-rate.
Borough of Cardiff	194,247	8,351*	82	5,198	26·7	2,667	13·7	140	402	2·06	5	0·1	162	0·8	11	0·5	81	0·4	40	0·2	25	0·1	...	...	81	0·4	110	0·5	212	1·09	502	2·5
Cardiff Registration Sub-district	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Canton Ward	28,700	449	52	759	32·0	264	11·1	116	84	1·4	...	...	15	0·6	...	...	...	...	7	0·3	1	0·4	...	...	11	0·4	6	0·2	18	0·7	55	2·3
Riverside Ward	19,209	313	61	369	11·0	175	9·1	132	26	1·3	...	...	6	0·3	...	...	2	0·1	7	0·3	1	0·0	...	...	10	0·5	9	0·5	16	0·8	36	1·8
Grange Ward	20,612	1,905	10	839	40·7	321	15·5	159	54	2·6	...	...	14	0·6	2	0·9	13	0·6	1	0·4	3	0·1	...	...	21	1·0	13	0·6	14	0·6	69	3·3
West Cardiff	68,521	2,667	23	1,967	30·9	760	11·9	137	114	1·7	...	...	35	0·5	2	0·8	15	0·2	15	0·2	5	0·4	...	...	42	0·6	28	0·4	48	0·7	160	2·4
South Ward	11,743	519	22	249	21·1	135	15·7	156	26	2·2	...	...	12	1·0	...	...	11	0·9	2	0·1	...	...	...	...	8	0·6	18	0·4	17	1·4	34	2·9
Central Ward	12,661	473	27	244	19·2	207	16·3	211	92	1·7	...	...	9	0·7	...	...	4	0·3	...	...	1	0·8	...	...	1	0·8	10	1·4	18	1·4	38	3·0
Cathays Ward	20,580	869	55	602	29·3	231	11·8	134	31	1·5	...	...	13	0·6	...	...	2	0·9	9	0·4	...	...	...	...	7	0·3	10	0·6	14	0·6	39	1·9
Adamsdown	13,523	1,570	8	415	30·6	214	15·7	137	28	2·0	...	...	13	0·9	...	...	2	0·1	5	0·3	1	0·5	...	...	7	0·5	7	0·5	16	1·1	43	3·1
Central Cardiff	58,457	2,931	19	1,510	25·5	837	14·7	151	107	1·8	...	...	47	0·8	...	...	19	0·3	16	0·2	2	0·03	...	...	23	0·3	38	0·6	65	1·1	154	2·7
Splott Ward	17,360	1,454	11	614	35·3	236	14·7	120	52	2·9	...	...	32	1·8	2	0·1	5	0·2	4	0·2	1	0·6	...	...	8	0·4	14	0·8	17	0·9	59	3·3
Road Ward	15,775	766	20	409	25·9	229	14·5	133	29	1·8	...	...	20	1·2	...	...	3	0·1	3	0·1	...	...	...	...	3	0·1	13	0·8	16	1·0	53	3·3
Park Ward	25,757	533	48	635	24·6	270	10·5	102	39	1·5	...	...	26	1·0	...	...	3	0·1	2	0·5	4	0·1	...	...	4	0·1	12	0·4	25	0·9	47	1·8
East Cardiff	58,892	2,753	21	1,658	28·1	755	12·8	129	120	2·0	...	...	78	1·3	2	0·03	11	0·1	9	0·1	5	0·2	...	...	15	0·2	39	0·6	58	0·9	159	2·8
Infectious Diseases Hospital...	...	...	...	...	...	58	...	...	56	...	2	...	2	...	7	...	34	...	...	...	11	...	...	...	...	...	...	...	...	...	1	...
Union Workhouse	...	...	...	63	...	187	...	253	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	4	...	39	...	24	...
Infirmary	...	...	...	...	...	68	...	...	3	...	...	...	...	...	...	...	2	...	...	...	1	...	...	...	...	...	1	...	2	...	4	...
Seamen's Hospital	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

The population in the above Table is, in the case of the Borough, that given by the Registrar-General, as the estimate to the middle of the Year, 1900. The populations of the Registration Sub-districts and Wards are estimated on the basis of the number of inhabited houses, allowing an average of 6·20 persons to each house.

* Excluding 108 acres, the area of the Bute Docks, and 97 acres the area of the land on the Flat Holm Island, making a total of 8,496 acres, of which 2,600 consist of water and foreshore.

TABLE XXI.—Shews the number of Infectious Diseases reported in the Cardiff Urban Sanitary District under the Notification Act, and Deaths during each quarter in the year 1900.

	Small Pox.		Cholera.		Diphtheria.		Croup.		Erysipelas.		Scarlet Fever.		Typhoid Fever.		Typhus Fever.		Puerperal Fever.		Relapsing Fever.		Continued Fever.	
	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	Cases Reported.	Deaths.	
First Quarter ..	1	3	—	—	21	170	2	3	1	36	4	79	5	14	—	—	—	4	—	—	1	
Second " ..	1	1	—	—	25	151	1	2	1	25	2	89	5	22	—	1	1	3	—	—	1	
Third " ..	—	—	—	—	21	187	2	3	—	18	1	80	7	30	—	2	—	3	—	—	3	
Fourth " ..	—	—	—	—	14	198	—	—	—	27	4	135	8	25	—	—	3	5	—	—	—	
Year 1900 ..	2	4	—	—	81	706	5	8	2	106	11	383	25	91	—	3	4	15	—	—	5	

TABLE XXII.

ANNUAL RATES OF MORTALITY FROM ALL CAUSES AND FROM SEVERAL CLASSES OF DISEASES
PER 1,000 PERSONS LIVING IN CARDIFF AND IN ENGLAND AND WALES.

Year.	All Causes.		Zymotic Diseases.		Constitutional Diseases.		Developmental Diseases.		Local Diseases.	
	Cardiff.	England and Wales.	Cardiff.	England and Wales.	Cardiff.	England and Wales.	Cardiff.	England and Wales.	Cardiff.	England and Wales.
1888	20·3	18·11	2·9	2·13	3·30	3·16	2·94	1·56	9·27	9·64
1889	19·4	18·22	2·1	2·45	3·69	3·22	1·44	1·55	9·16	9·39
1890	21·1	19·54	2·4	2·53	3·49	3·37	1·69	1·61	10·10	10·36
1891	22·0	20·21	2·1	2·70	3·64	3·33	1·36	1·69	11·39	10·80
1892	18·7	18·98	2·7	2·78	3·51	3·16	1·24	1·62	7·79	9·80
1893	19·6	19·17	2·8	3·16	3·47	3·21	1·25	1·59	8·26	9·53
1894	16·2	16·59	1·7	2·25	3·14	3·01	1·20	1·46	7·28	8·42
1895	18·2	18·72	2·0	2·82	3·14	3·16	1·25	1·67	8·42	9·43
1896	16·8	17·10	2·2	2·54	2·62	3·00	1·18	1·53	8·43	8·53
1897	14·9	17·43	2·1	2·59	2·72	3·06	1·04	1·61	6·73	8·65
1898	14·8	17·58	2·2	2·76	2·63	3·06	1·11	1·62	6·53	8·65
1899	15·3	18·4	2·0	2·81	2·45	3·10	1·16	1·70	7·20	9·18
1900	13·7	Not yet published.	2·0	Not yet published.	2·23	Not yet published.	1·04	Not yet published.	6·63	Not yet published.

TABLE XXIII.—The following Tables show the Distribution of Mortality from the Chief Zymotic Diseases, from Phthisis, from Diseases of the Respiratory Organs, and from other causes, in each Street in the Borough during the year 1900:—

CENTRAL WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Bridge Street and Little Bridge Street	1	4	4	9
Blackweir Terrace	1	...	...	...	1	2
Bute Street and Terrace	1	...	3	6	10
Carpenters' Arms Court	1	1
Clytha Place	1	...	...	...	...	...	...	1
Canal Street	1	...	...	2	3
(Cab)	1	1
Caroline Street	2	2
Colum Road and Place	1	...	6	7
Charles Street	5	5
Drane's Court	1	...	...	...	1
David Street	3	4	7
Eisteddfod Street	1	1	2	4
East Terrace	2	1	3	6
Edwards Street, Terrace, and Place	...	1	...	...	...	...	...	...	2	5	8
Ebenezer Street	...	1	...	...	...	...	...	...	1	1	3
Frederick Street	1	...	5	6
French Cottages	1	...	2	3
Gough Street	1	1
Guildford Crescent	1	1
Havelock Street	1	1	4	6
Homfray Street	2	2
Glamorgan Canal	2	2
Hill's Terrace and Street...	...	1	...	1	...	...	...	1	1	3	7
Hayes	2	2	4
Jenkins Court	2	2
Love Lane	1	...	...	...	...	...	...	...	2	3
Little Frederick Street	...	1	...	...	...	...	...	...	1	4	6
Millicent Street	1	...	1	6	8
Mill Lane	1	1
Matthews Court	1	1
Marlborough Terrace	1	1
Mary Ann Street	2	4	1	7
North Edward Street	1	1
Nazareth House	1	4	2	12	19
North Road	1	...	1	...	...	1	3	6
Old Barracks	1	...	...	...	1
Park Place	1	...	...	...	...	...	...	...	2	3
Park Street	1	...	...	...	...	...	...	...	3	4
Pembroke Terrace	1	1
Queen Street...	1	...	...	1
Quay Street	1	1
Raven Street	1	2	3
Roberts Court	1	...	1
Row's Square	1	1
Ruperra Street	3	3
Rodney Street	1	...	1	...	2
Richmond Terrace	1	1	2
Railway Terrace	1	1
Scott Street	2	3	5
St. Mary Street	1	1
Station Terrace	1	1
Spring Garden Court	1	1
Tredegar Street	1	1	...	2
Vachell's Terrace	...	1	...	...	...	...	...	...	...	1	2
Union Street	...	1	...	...	...	...	...	...	3	6	10
Wood Street	1	...	...	...	...	1	2	4
Total...	...	9	...	4	...	1	8	17	39	129	207

SOUTH WARD.

NAME OF STREET.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Angelina Street	1	1
Alice Street	1	...	1	...	...	...	...	...	2	4
Adelaide Street and Place	1	...	...	...	1	...	4	6
Bute Street and Place	1	...	...	2	5	10	18
Crichton Street and Place	2	...	...	...	2	1	2	7
Christina Street	1	1	7	9
Clarence Place and Embankment	3	3
Crawshay Street	1	2	3
Canal Parade	1	1
Dudley Street and Place	1	...	1	...	...	...	1	1	3	7
Eleanor Street	1	...	...	...	...	...	1	...	2	4
Evelyn Street	1	...	...	...	...	4	2	7
East Wharf	1	1
Francis Street	1	...	...	...	1
Glamorgan Canal	7	7
George Street	1	4	5
Harrowby Street	1	...	1	...	...	...	...	...	2	4
Hodges Row	1	1
Hodges Court	1	1
Herbert Street	2	1	3	6
Harpur Street	1	...	...	1
Hunter Street	1	...	...	...	...	...	...	2	2	5
Hamadryad Hospital	2	2
James Street	2	...	...	...	...	...	...	...	...	2
John Street	2	2
Louisa Street	5	5
Loudoun Square	1	...	...	...	...	...	2	...	3	6
Mount Stuart Square	1	...	...	...	...	2	2	5
Margaret Street	1	...	1	...	...	...	...	1	...	3
Maria Street	1	1	1	3
North Church Street	1	1
Nelson Street	1	...	2	3
Penarth Road and Terrace	1	2	3
Percy Street	1	...	1
Peel Street	1	...	...	...	...	...	2	1	...	4
Patrick Street	1	1
Pomeroy Street	1	...	6	7
Pier Head	2	2
South Church Street	2	...	2
South William Street	1	...	1	...	...	...	...	1	5	8
Sophia Street	1	...	...	...	...	...	1	5
Stuart Street	1	...	...	...	...	...	...	3	2	6
Timber Float	1	1
Tresillian Terrace	1	...	...	...	2	2	5
River Taff	2	2
Windsor Esplanade	1	1	2
West Church Street	1	1	2
Total	...	12	...	11	2	...	1	18	35	108	187

CATHAYS WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Allen's Bank, Road, and Crescent	1	...	...	2	3
Alexander Street	1	...	...	...	...	...	1	2
Barracks	...	1	...	...	...	...	...	...	3	2	5
Bruce Street	...	1	...	...	...	...	...	...	...	1	2
Cairns Street...	...	3	...	...	...	...	...	1	1	9	14
Coburn Street	1	2	8	11
Clun Terrace...	3	3
Crwys Road	1	2	3	6
Cathays Terrace	...	1	...	1	...	...	1	...	4	11	18
Cranbrook Street	2	1	3	6
Catherine Street	3	3
Clytha Place...	1	...	...	...	...	...	1
Dalton Street	1	...	1
Dogfield Street	1	...	...	4	5
Daniel Street	5	5
Darran Street	2	2
Flora Street	1	1	4	7	13
Fitzroy Street	1	1	2
Florentia Street	...	1	...	...	...	...	...	...	...	3	4
Glynrhondda Street	1	1
Hirwain Street	...	2	...	...	...	...	...	...	2	2	6
Harriet Street and Place...	5	5
Llantrisant Street	1	4	5
Letty Street	...	1	...	...	...	...	...	...	1	1	3
Llantwit Street	1	1
Lucas Street...	1	1
Middy Street	...	1	...	...	...	...	...	...	...	3	4
Monthermer Road	1	1
Manor Street	1	1
Miskin Street	1	...	...	...	1	2	4
Malefant Street	1	...	1	2	1	3	8
Mundy Place...	2	2
May Street	...	1	...	...	1	...	...	1	1	5	9
Merthyr Street	1	...	...	...	...	1	2
Norman Street	1	1
Rhymney Terrace	1	1
Richards Street	1	...	...	...	2	3	6
Ruthin Gardens	1	1
Robert Street	1	...	1	4	6
Spencer Street	1	...	3	4
Senghenydd Road and Place	1	...	...	1
Salisbury Road	3	5	8
Thesiger Street	1	1	1	3
Treorky Street	...	1	...	...	...	...	...	...	...	...	1
Treherbert Street	1	2	3
Tewkesbury Street and Place	1	2	6	9
T. V. Railway	1	1
Woodville Road	1	...	...	...	2	9	12
Whitchurch Place	1	...	1	2
Whitchurch Road	1	...	...	...	...	2	3
Wyevever Road	...	1	...	...	1	...	1	...	1	6	10
Total...	...	13	...	2	9	...	7	14	39	147	231

PARK WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Alfred Street...	...	1	...	...	...	...	...	...	...	3	4
Albany Road...	2	2
Arran Street	1	...	...	...	...	...	...	1	4	6
Angus Street...	1	4	5
Arabella Street	...	2	...	...	...	...	1	...	3	6	12
Braeval Street	1	1
Bangor Street	1	2	3
Byron Street...	...	1	...	...	...	...	...	...	...	2	3
Bedford Street and Place...	...	4	...	...	...	...	...	2	...	3	9
Castle Road	1	...	...	...	...	...	...	...	7	8
Cab	1	...	...	...	...	1	...	...	1	1
Cowper Street	1	1
Clive Place	1	...	1
Cyfarthfa Street	...	1	...	1	1	...	...	...	1	5	9
Cr wys Road and Place	1	...	...	1	...	2
Convent	1	1	...	2
Donald Street	2	8	10
Dalcross Street	...	1	...	...	...	...	...	...	...	...	1
Daviot Street	...	1	...	...	...	...	...	...	...	2	3
Diana Street	2	...	...	...	...	...	...	2	8	12
Elm Street	1	1	...	2
Glenroy Street	1	1	1	...	1	2	5	11
Gordon Road	2	4	6
Inverness Place	...	1	...	...	...	...	...	2	2	7	12
Kincraig Street	1	...	1	2
Keppoch Street	...	1	...	...	...	1	...	1	4	3	10
Lily Street	2	...	2	4
Lochaber Street	1	1
Montgomery Street	...	1	...	...	...	1	...	...	...	1	3
Moy Road	1	...	...	...	...	1	2	2	4	10
Milton Street	...	1	...	...	...	...	2	1	1	7	12
Mackintosh Place	...	1	...	...	...	...	...	2	1	11	15
Northcote Street	4	4
Newport Road	1	...	3	4
Oxford Street	1	2	3
Parade	1	...	...	1
Penywain Place	1	...	...	1
Penylan	1	1
Plasnewydd Place and Road	...	1	...	...	...	...	...	1	1	3	6
Russell Street	...	1	...	...	...	...	...	...	2	2	5
Rose Street	1	2	3
Richmond Road and Crescent	1	9	10
St. Peter Street	4	4
Strathnairn Street	4	2	6
Shakespeare Street	2	4	6
Treharris Street	...	3	...	...	...	...	...	1	2	5	11
Tavistock Street	1	1
Talworth Street	1	3	4
Upper Kincraig Street	1	1	1	3
Vere Street	1	...	...	...	1	...	1	3
Violet Row	1	...	1	2
Wellfield Road and Place	2	2
The Walk	1	...	1	2
West Grove	1	1
Wordsworth Avenue	1	1
Woodland Place	1	1
Total...	...	26	...	3	2	4	4	25	47	159	270

ADAMSDOWN WARD.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Augusta Street	...	1	...	...	...	...	...	...	1	3	5
Ascog Street	1	...	1	2
Adams Street	...	1	...	...	1	...	...	...	3	10	15
Adamsdown Square and Place	1	2	3
Buzzard Street	1	1	3	1	6
Cycle Street	...	1	...	...	...	...	...	...	...	2	3
Comet Street	1	2	3
Clyde Street	2	1	3
Cumnock Place and Terrace	1	1
Clifton Street	3	3
Cumrae Street and Place	...	1	...	...	...	...	...	...	1	...	2
Constellation Street	1	2	5	8	8
Channel Dry Dock	1	1
Copper Street	1	...	...	1	...	1	3
Davis Street	1	...	...	...	4	2	7
Eclipse Street	2	...	...	...	2	4	8
Ellen Street	2	2
Gaol Lane	...	1	...	...	...	...	...	...	...	...	1
Galston Street and Place	1	...	1
Garth Street and Court	2	1	1	4
Gold Street	1	1
Gwendoline Street	2	2
Godfrey Street	1	...	1
Inchmarnock Street	1	...	...	...	1
Ivor Street	1	1
Iron Street	...	2	...	...	...	...	...	...	...	...	2
Infirmity	2	...	1	...	2	4	59	68
Kite Street	1	...	...	...	...	1
Kerrycroft Street	2	2
Kilcattan Street	1	1	2
Longcross Street	2	2
Lead Street	1	2	3
Meteor Street	1	...	...	2	3
Metal Street	2	1	3
Moon Street	2	2	4
Moirs Street, Place and Terrace	...	2	...	1	...	...	...	...	...	2	5
Morgan Street	...	1	...	...	...	...	...	...	1	1	3
North William Street	1	2	2	5
North Luton Street and Place	1	1	2
Newport Road	7	7
Orbit Street	1	...	3	4
Pellet Street	1	...	...	3	4
Planet Street	...	1	...	...	...	...	...	...	...	3	4
Prince Leopold Street	1	2	3
Pendoylan Street	...	1	...	...	...	...	...	1	1	3	6
Roland Street	...	1	...	...	...	...	...	1	1	2	5
Roath Dock	1	7	8
Rhymney Railway	1	1
South Luton Place	3	3
St. George's Channel	1	1
Sandon Place and Street	1	2	...	6	9
Silver Street	1	1
System Street	1	...	2	5	8
Taff Street	1	...	2	3
Tin Street	2	2
Tyndall Street	1	2	4	7
Victoria Street	1	...	...	1	...	...	1	3
Windsor Road	1	1	...	1	3
West Dock	6	6
Zinc Street	2	...	2
Total	...	13	...	4	5	2	7	18	47	186	282

RIVERSIDE WARD.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Ann Street	1	...	...	...	1	1	3
Berthwin Street	1	...	1
Beauchamp Street	1	...	1	2
Brook Street	1	3	4
Blackstone Street	1	1
Cowbridge Road	2	2	3	7
Craddock Street	1	...	...	...	...	4	2	7
Clare Road and Gardens	1	2	3
Lower and Cathedral Road	...	1	...	...	...	...	...	...	1	8	10
Dyfrig Street	1	1
Dispenser Street and Gardens	1	1
Dogo Street	1	2	3
Eldon Road	1	...	3	5	9
Fitzhammon Embankment	1	...	...	1
Gloucester Street	2	1	...	3
Green Street	1	...	1	...	...	...	2
Halket Street	3	2	...	1	6
Hamilton Street	1	2	3
King's Road	...	1	...	...	1	...	1	1	4	4	12
Kyveilog Street	1	1
Lewis Street	2	2
Mortimer Road	1	1
Mansfield Street	1	1	...	1	3
Mark Street	1	...	3	4
North Morgan Street	2	2
Neville Street and Place...	1	1	2
Pontcanna Terrace	3	3
Plantagenet Street	1	1	...	1	...	6	9
Picton Place	1	1
Pitman Street	1	1
Plasturton Avenue and Place	5	5
Plasturton Gardens	1	1
Ryder Street	3	3
Rawden Place	3	3
Smeaton Street	1	1
Savern Road	...	1	...	...	2	...	...	...	2	5	10
Sneyd Street	1	1
South Morgan Street	1	...	...	...	...	...	1
Stephenson Street	1	...	...	...	...	...	...	1
Trevethick Street	1	...	...	1	2
Teilo Street	2	2
Telford Street	2	1	3
Tudor Road	...	1	...	...	...	...	...	...	2	3	6
Union Workhouse	1	1	39	24	122	187
Wellington Street	...	1	...	...	...	...	1	2	3	5	12
Wyndham Crescent	1	2	2	3	8
Wyndham Road	1	...	1
Wyndham Street and Place	...	1	...	...	...	...	...	...	1	3	5
Wells Street	1	1	2
Total	...	6	...	2	7	2	11	55	60	219	362

CANTON WARD—Continued.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Tintern Street	1	1
Theobald Road	1	3	4
Turner Road	1	1
Westmoreland Street	1	...	...	...	...	...	...	...	2	3
Turberville Place	1	1
Wells Street	1	...	...	...	...	...	...	...	1	2
Wellington Street	1	2	3
Westbury Terrace	1	1
William Street
Total	15	...	...	7	1	11	18	55	157	264

ROATH WARD.

NAME OF STREET.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Agate Street	2	2
Arthur Street	3	3
Albany Road...	1	...	1
Bradley Street	1	2	1	4
Bertram Street	1	6	5	12
Blanche Street	1	2	...	3
Beresford Road	1	...	1	2
Broadway	1	...	1	1	3	12	18
Balaclava Road	1	...	1
Connaught Road	1	1	2
Crofts Street	1	...	...	...	...	...	...	1	6	8
Cecil Street and Crescent...	1	4	4	9
Clifton Street	1	...	...	...	...	...	...	1	...	2
Cottrell Road	1	1	1	3	6
Claude Road and Place	1	1	2	3	7
Deri Farm	1	1
Diamond Street	1	1	...	...	...	1	6	9
Emerald Street	5	...	...	...	...	...	...	2	11	18
Elm Street	1	2	3
Fort Street	1	...	...	1
Fox Street	1	...	1
Harold Street	1	...	...	...	...	...	2	4
Helen Street	1	...	...	1	...	...	...	2	9	13
Mariborough Road	1	...	1
Nora Street	1	...	...	...	...	...	...	2	11	14
Newport Road	1	...	5	6
Lily Street	1	1
Oakfield Street	1	1
Partridge Road	2	2
Pearl Street, Place, and Crescent	...	4	...	1	...	...	...	1	6	10	22
Penylan Road	1	1
Ruby Street	1	1	5	3	10
Richards Terrace	1	...	2	3
Sapphire Street	4	4
Spring Gardens Place and Terrace	...	2	...	...	...	...	...	...	2	4	8
Stacey Road	1	1	5	7
Theodora Street	2	...	...	...	...	...	2	1	4	9
Topaz Street	3	...	...	...	...	...	...	2	4	9
Wellfield Place	1	1
Total...	...	20	...	3	3	...	4	16	53	130	229

GRANGETOWN WARD.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Andrews' Terrace	1	1
Allerton Street	1	1	2
Amherst Street	1	...	...	3	4
Bromfield Street	2	1	3
Blaenclydach Street	1	...	1
Bradford Street	3	3
Bishop Street	2	2
Bromsgrove Street	...	2	...	...	...	...	...	...	1	1	4
Corporation Road	...	1	...	1	...	...	...	...	1	8	11
Clive Street	1	1	...	...	1	...	2	10	15
Cambridge Street	2	2
Compton Street	2	2
Clarence Road	1	1
Cornwall Road	3	2	5
Clare Road	...	1	...	...	...	...	...	3	...	9	13
Coedcae Street	1	...	1	1	3
Clydach Street	1	...	...	...	...	...	1	2
Cymmer Street	1	...	...	...	...	...	...	...	1
Court Road	2	...	...	1	1	4	4	12
Chester Street and Place...	4	4
Dorset Street and Place	2	...	5	3	10
Devon Street and Place	1	...	...	...	...	2	2	5
Durham Street	1	...	...	1	...	...	2	4
Ely Harbour	1	...	1
Earl Street	...	1	...	...	...	...	...	...	1	2	4
Franklin Street	2	2
Ferry Road	2	2
Forrest Street	2	2
Ferndale Street	1	1	...	...	...	...	2	4
Grange Gardens	1	1
Holmesdale Street and Terrace	...	1	...	...	...	...	1	...	2	7	11
Hewell Street	...	1	...	...	...	...	2	...	1	1	5
Hereford Street	...	1	...	...	...	...	1	1	1	6	10
Kent Street	...	1	...	1	...	...	1	...	2	6	11
Knole Street	1	...	5	4	10
Llanmaes Street	...	1	...	...	...	...	...	1	4	4	10
Ludlow Street	1	1
Monmouth Street	1	...	...	1	2	4
Madras Street	1	3	4
Newport Street	1	...	...	1	1
North Street	1	...	...	...	1
North Clive Street	...	1	...	...	...	...	1	...	1	6	9
Oakley street	1	4	7	12
Penhevad Street	...	1	...	1	...	...	...	1	3	4	10
Pentre Street	1	1
Penarth Road	1	...	4	13	18
Pentrebane Street	...	1	...	1	...	...	...	...	1	2	5
Paget Street	1	...	...	...	1	3	4	9
Redlaver Street	2	2
Rookwood Street	1	1	1	2	5
Rutland Street	1	...	...	...	...	1	2	4
River Taff	1	1
Sevenoaks Street	3	3
St. Fagans Street	1	3	4
Somerset Street	...	1	...	...	...	1	...	...	...	2	4
Stoughton Street	1	...	...	1	...	...	...	4	6
Saltmead Road	4	4	8
Stockland Street	1	1	3	4	9
Sanatorium	2	2	7	34	...	11	...	...	1	1	58
Sea View	1	...	...	...	1
Tynant Street	1	...	...	...	1
Thomas Street	1	2	...	5	8
Taff Embankment	1	1
Wedmore Road	1	...	1	2	4
Warwick Street	2	2
Total	2	16	10	47	1	14	21	14	70	184	379

SPLOTT WARD.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Aberdovey Street	...	1	1	...	...	...	...	...	...	2	4
Adeline Street	2	...	2	5	9
Aberystwith Street	...	1	...	...	...	...	...	1	3	3	8
Burnaby Street	3	3
Bridgend Street	...	6	...	1	...	...	...	...	3	3	18
Cameron Street	1	3	4
Coveny Street	...	1	...	...	...	...	...	1	1	2	5
Caerphilly Street	1	...	...	3	4
Cornelia Street	1	1	...	4	1	7
Carlisle Street	...	4	...	1	...	...	...	1	3	10	19
Elaine Street	1	1
Enid Street	1	2	3
Eyre Street	1	2	3
Eagle Paint Works	1	1
Habershon Street and Place	...	2	...	1	...	...	...	1	2	6	12
Gwendoline Street	...	1	...	1	1	...	...	...	...	1	4
Howard Street and Place	1	1	1	3
Hinton Street	1	1
Janet Street	2	9	11
Layard Street	1	3	4
Llanelly Street	...	1	...	...	...	...	...	...	1	5	7
Moorland Road	...	1	...	...	...	...	...	1	1	3	6
Malt House	1	1
Marion Street	3	2	5
Milford Street	...	1	...	...	1	...	...	...	...	5	7
Menelaus Street	...	1	1	...	...	...	...	...	1	...	3
Ordell Street	...	1	...	...	...	...	1	3	1	2	8
Portmanmoor Road	...	1	...	1	1	...	1	2	2	10	18
Pontypridd Street	1	1	...	2
Railway Street	...	6	...	...	1	...	2	1	11	11	32
Swinton Street	3	3
Sanquahar Street	...	1	...	...	...	...	...	...	1	2	4
Seymour Street	2	6	8
Sploott Road	1	3	...	4
Singleton Road	...	1	...	...	...	...	...	1	...	5	7
Swansea Street and Terrace	3	4	7
Tenby Street	...	1	...	...	...	...	...	...	1	6	8
Walker Road	1	2	2	5
Wimborne Street	...	1	...	...	...	...	...	...	1	1	3
Wilson Street	1	...	1	2
Total	...	32	2	5	4	1	8	17	59	181	259

CARDIFF SANATORIUM.

REPORT FOR THE YEAR 1900.				MALES.		FEMALES.		TOTALS.
				Under 5 Years.	Over 5 Years.	Under 5 Years.	Over 5 Years.	
I.—Remaining in Hospital on 31st December, 1899 :—								
Scarlet Fever	...	...	...	2	8	4	14	28
Enteric Fever	...	...	...	...	6	...	4	10
Diphtheria	...	...	...	10	16	7	14	47
Total	...	...	...	12	30	11	32	85
II.—Admitted during the year ending 31st December, 1900 :—								
Scarlet Fever	...	...	...	35	75	47	93	250
Enteric Fever	...	...	...	2	37	3	20	62
Diphtheria	...	...	...	54	121	66	143	384
Small-Pox	...	...	...	...	6	...	3	9
Measles	...	...	...	...	2	...	2	4
Typhus Fever	...	...	...	...	4	...	...	4
Plague	...	...	...	...	1	...	...	1
Other Diseases	...	...	...	...	1	...	...	1
Total	...	...	...	91	247	116	261	715
Total under treatment in 1900	...	...	...	103	277	127	293	800
III.—Of the above there were Discharged								
(a) Recovered :—								
Scarlet Fever	...	...	...	28	67	35	77	207
Enteric Fever	...	...	...	2	31	3	18	54
Diphtheria	...	...	...	46	119	54	122	341
Small-Pox	...	...	...	...	4	...	2	6
Measles	...	...	...	...	2	...	2	4
Typhus Fever	...	...	...	...	4	...	...	4
Plague	...	...	...	...	...	...	...	...
Other Diseases	...	...	...	...	...	...	...	...
Total	...	...	...	76	227	92	221	616
(b) Died :—								
Scarlet Fever	...	...	...	3	...	2	...	5
Enteric Fever	...	...	...	...	10	...	5	15
Diphtheria	...	...	...	11	5	10	9	35
Small-Pox	...	...	...	...	2	...	1	3
Measles	...	...	...	...	...	...	...	...
Typhus Fever	...	...	...	...	...	...	...	...
Plague	...	...	...	...	1	...	...	1
Other Diseases	...	...	...	...	...	...	...	...
Total	...	...	...	14	18	12	15	59
IV.—Remaining in Hospital on 31st December, 1900 :—								
Scarlet Fever	...	...	...	6	16	14	30	66
Enteric Fever	...	...	...	...	2	...	1	3
Diphtheria	...	...	...	7	13	9	26	55
Other Diseases	...	...	...	...	1	...	...	1
Total	...	...	...	13	32	23	57	125
Total under treatment in 1900	...	...	...	103	277	127	293	800

Mortality per cent. under treatment :—

Scarlet Fever	...	...	1.8%
Enteric Fever	...	...	20.8
Diphtheria	...	...	8.1
Small-Pox	...	...	33.3
Measles	...	...	...
Typhus Fever	...	...	...
Plague	...	...	100
Other Diseases	...	...	...

B. W. BROAD, M.B.,

Medical Superintendent.

WATER SUPPLY.—To the excellent supply of pure water which is provided for the inhabitants of this district may be attributed in some measure the satisfactory state of the public health, more particularly the comparative immunity of the town from Enteric Fever, a disease at all times closely associated with impure water. From a public health point of view, therefore, one of the most important undertakings of the Sanitary Authority has been the construction of the new Waterworks, by which an ample supply of a pure soft water is obtained from the Taff Fawr Watershed of the Brecon Beacons.

This extensive gathering ground, situated to the north of the South Wales Coalfield on the old Red Sandstone formation, forms the highest ground in South Wales, the summits of the Beacons rising to 2,910 feet above the sea, and upon which the average rainfall is 70 inches per annum.

I am indebted to Mr. C. H. Priestley, M.I.C.E., the Engineer of the Cardiff Waterworks, for the following information relating to these works :—

The Cardiff Corporation Act of 1884 gave the Corporation power to impound and utilise the water flowing from the watershed of 10,400 acres, and authorised the construction of three Storage Reservoirs, with a total capacity of 1,220 million gallons, and three balancing Reservoirs at Cefn, Blackbrook, and Rhubina respectively, on the line of conduit, and a high level service Reservoir and Filter Beds at Rhubina for the supply by gravitation of the high level districts.

Also an Aqueduct or conduit connecting the storage reservoirs and passing down the Valley of the Taff through Merthyr Tydfil, Pontypridd, Taff's Well and Tongwynlais to Rhubina, and from there to the two storage reservoirs at Lisvane and Llanishen, about eight miles from Cardiff, a total distance of about 35 miles.

After the passing of the Act these works were immediately proceeded with, and it was found that No. 1 reservoir could be advantageously enlarged, so that the total storage has been considerably increased.

At the same time a new reservoir was constructed at Llanishen and completed in 1886, giving an additional storage capacity of some 317 million gallons. This reservoir immediately adjoins the Lisvane reservoir previously built by the Company which owned the Water Works previous to their purchase by the Corporation in 1879. The construction of the Llanishen Reservoir necessitated the removal of the old filters which occupied a site in the middle of the new reservoir. Land was procured near an estate known as the "Heath" about two miles from the centre of Cardiff, and three filter beds were built of sufficient capacity to filter 1,000,000 gallons each per 24 hours, allowing 2.78 gallons per superficial foot of filtering area per hour. A covered service reservoir was also constructed here with a capacity of 1,300,000 gallons. These filters becoming inadequate to the requirements of the town, three additional filter beds were constructed of similar capacity, and these are now working to their full efficient delivery, and it will soon be necessary to enlarge the service reservoir and construct more filters. The filtering material is composed of shingle, gravel and sand, most of it coming from Bideford.

The first storage reservoir connected with the new works, and known as the Cantreff Reservoir (No. 2 Reservoir), was commenced in March, 1886, and opened for use in September, 1892.

The embankment of the reservoir is 1,080 feet above Ordnance datum, and the 4,000 acres of watershed above the reservoir (chiefly mountain pasture) rises to a height of 2,910 feet above Ordnance datum at the Brecon Beacons.

The capacity of the reservoir when full is 322 million gallons. Simultaneously with the building of the Cantreff reservoir the aqueduct and balancing reservoirs were constructed. The aqueduct consists of a line of iron pipes 29-in. and 24-in. diameter. The balancing reservoirs were constructed at Cefn, Blackbrook and Rhubina, each with a capacity of just over half a million gallons.

The covered service reservoir which receives the water after filtration at Rhubina supplies the high level district of Llandaff and Whitechurch, Llanishen, &c.

The supply of Penarth being pumped from Cogan. This pumping station is about to be extended and a new service reservoir will be constructed at Leckwith for supplying the high level district of Penarth.

Immediately after the completion of the Cantreff Reservoir the Beacons Reservoir (No. 1 Reservoir) was proceeded with and completed in September, 1897. Powers were obtained in 1894 for enlarging the original capacity of this reservoir to 345 million gallons with a water area of 51 acres.

The Corporation have Parliamentary powers to construct another storage reservoir in the Taff Fawr Valley (No. 3 Reservoir). This will be the largest of the series, and will have a capacity of 670 million gallons, giving another three million gallons per day for the use of the town, making a total supply of 10,500,000 gallons per day, or sufficient for a population of 420,000 at 25 gallons per head. In addition to the Taff Fawr sources of supply the Cardiff Corporation have power to abstract three million gallons of water per day from the River Ely, as well as to take the water from the drainage area of 2,200 acres at Lisvane and Llanishen, all of which water is suitable for trade and sanitary purposes and might be made use of by means of duplicate mains.

It is evident from the above description of the works by the Engineer that Cardiff will have an ample supply of excellent water for many years to come.

As usual with surface waters from the Old Red Sand Stone the water is soft, containing about four degrees of hardness, and is sometimes peaty and turbid before filtration. It does not, as is frequently the case with soft surface waters, appear to have any solvent action upon lead, and no cases of lead poisoning have been brought to my notice as due to this cause. The water, however, has a corroding action upon iron main and service pipes, producing in these obstructive deposits of oxide of iron.

Considerable difficulty arises from the deficient protecting power of the Angus Smith's varnish which lines the interior of the pipes. The efficient filtration of this water is obviously a matter of the first importance as so many outbreaks of disease have been recorded which have originated from a neglect of this precaution. Recent bacteriological investigations have demonstrated the extreme importance of efficient filtration, and although probably much remains to be discovered before the results of bacteriologists can be implicitly accepted, they nevertheless afford the safest guide which we possess of the quality of drinking water. To secure efficient filtration Professor Koch considers that the place of filtration should not exceed 100 m.m. per hour (or about 2,000,000 gallons per acre daily). This conclusion was based upon experiments during the outbreak of Cholera at Hamburg and Altona, when it was found that by keeping the pace of filtration below 2,000,000 gallons per acre daily the bacteria in each c.c. of the filtered water at Altona remained below 100—20 to 30 being the average. Koch states that in January, 1892, the number of micro-organisms suddenly increased to from 1,000 to 2,000 per c.c., and that

in February an outbreak of Typhoid Fever occurred. In January and February, 1893, the epidemic of Cholera which occurred in Altona was preceded by a large increase in the number of bacteria in the filtered water. Realising the importance of a bacteriological investigation of the water supply, your Waterworks Committee, acting under the able guidance of its Chairman, Alderman D. Jones, resolved that a systematic periodical bacterial examination should be made in addition to the ordinary chemical examination. This has been regularly carried out since April, 1900, at monthly intervals by Dr. Savage, at the Public Health Laboratory.

Samples from the Beacons, Cantreff, Lisvane, Llanishen and Rhubina Reservoirs, and from the Heath Filters were examined bacteriologically in April, May, June, August and October, and chemically in April, July and December. The water from the Beacons and Cantreff Reservoirs were also examined both chemically and bacteriologically in September.

A summary of the results of these examinations is given below. They indicate freedom from contamination, and a fairly constant composition, and a condition of still greater purity in the filtered samples :—

SUMMARY OF CHEMICAL ANALYSIS OF CARDIFF WATERS.

From where Sample obtained.	Date of Analysis.	Total Solids.	Free Ammonia.	Albuminoid Ammonia.	Chlorine.	Nitrogen as Nitrates.	Total Hardness.
In parts per 100,000.							
1900.							
Heath Filter ...	April ...	9.3	0.002	0.008	0.8	Nil.	3.5
" " ...	July ...	9.4	0.005	0.013	0.1	"	4.3
" " ...	December ...	7.5	0.0018	0.006	0.8	"	4.3
Rhubina Reservoir	April ...	7.4	0.003	0.008	0.7	"	2.8
" " ...	July ...	7.25	0.006	0.015	1.0	"	4.3
" " ...	December ...	6.8	0.002	0.0096	0.75	"	3.7
Llanishen Reservoir	April ...	6.6	0.009	0.017	0.8	"	2.3
" " ...	July ...	6.7	0.004	0.009	1.0	"	3.8
" " ...	December ...	6.6	0.0024	0.01	0.75	"	4.1
Lisvane Reservoir	April ...	6.5	0.003	0.011	0.8	"	2.3
" " ...	July ...	7.2	0.0046	0.01	1.0	"	4.1
" " ...	December ...	6.7	0.002	0.012	0.8	"	4.3
Cantreff Reservoir	April ...	5.8	0.008	0.015	0.8	"	2.0
" " ...	July ...	6.0	0.005	0.012	1.0	"	3.2
" " ...	September ...	6.9	0.002	0.01	0.8	"	2.6
" " ...	December ...	5.8	0.002	0.009	0.7	"	2.4
Beacons Reservoir	April ...	6.3	0.004	0.012	0.8	"	2.3
" " ...	July ...	4.8	0.008	0.014	1.0	"	3.5
" " ...	September ...	6.8	0.002	0.012	0.8	"	2.7
" " ...	December ...	4.9	0.004	0.01	0.7	"	2.3

RESULT OF BACTERIOLOGICAL EXAMINATIONS.

Date, 1900.		Number of Organisms developing per cubic centimetre at											
		20°	37°	20°	37°	20°	37°	20°	37°	20°	37°	20°	37°
		Beacons.		Cantreff.		Lisvane.		Llanishen.		Rhubina.		Heath.	
April	...	134	34	121	42	380	20	310	14	283	11	345	16
May	...	648	34	426	45	434	46	342	13	295	5	360	26
June	...	328	74	143	28	380	11	298	20	210	9	242	12
August	...	202	402	280	253	136	8	110	10	48	2	83	53
September	...	172	54	155	26	—	—	—	—	—	—	—	—
October	...	58	9	118	25	212	8	111	6	97	14	70	12

MEAT INSPECTION AND FOOD SUPPLY.—Your Committee have always realized the importance of an efficient system of food inspection, and further developments in the administration of this work have taken place from year to year.

In 1896, it was decided to supplement the inspection which was then being carried out by the Inspector of Nuisances by the appointment of a Veterinary Surgeon to act as Meat Inspector, and in May, 1897, Mr. C. Moir, M.R.C.V.S., was appointed, whose duties were defined by a Resolution of the Sanitary Authority, as follows :—

1. "The Inspector of Meat shall visit the Roath and Canton Slaughterhouses of the Corporation at least once daily between the hours of 7 a.m. and 6 p.m. in the winter months, and between the hours of 5 a.m. and 10 p.m. in the summer months, and at such other stated times as the Medical Officer of Health may request him in writing, for the performance of the duties herein specified, and shall also visit any other buildings which are kept or used for the sale of Butchers' Meat within the Borough aforesaid.

2. He shall carefully inspect all cattle, sheep, or other animals, and all carcases which he may find in the above-mentioned slaughterhouses or other buildings, and shall immediately report to the Medical Officer of Health as to the condition of any animal or carcase which he may consider diseased, in order that the Medical Officer of Health may examine the same and decide whether the meat of such carcase is fit or unfit for human food.

3. He shall examine, at least once in every fortnight, each and every cowshed within the Borough aforesaid, and report to the Medical Officer of Health all cases of diseased cows he may find therein, in order that necessary steps may be taken to prevent the distribution of milk which would be likely to cause disease.

4. He shall act, when required, with the Medical Officer of Health in all cases where it is necessary to visit any dairy within or without the Borough aforesaid, under the following powers contained in Sec. 4 of the Infectious Diseases (Prevention) Act, *i.e.* :—

"In case the Medical Officer of Health is in possession of evidence that any person
 "in the district is suffering from infectious disease attributable to milk supplied
 "within the district from any dairy situate within or without the district, or
 "that the consumption of milk from such dairy is likely to cause infectious
 "disease to any person residing in the district, such Medical Officer shall, if
 "authorised in that behalf by an order of a justice having jurisdiction in the
 "place where such dairy is situate, have power to inspect such dairy, and if
 "accompanied by a Veterinary Inspector, or some other proper qualified
 "Veterinary Surgeon, to inspect the animals therein, and, if on such
 "inspection the Medical Officer shall be of opinion that infectious disease is
 "caused from consumption of the milk supplied therefrom, he shall report
 "thereon to the Local Authority, and his report shall be accompanied by any
 "report furnished to him by the said Veterinary Inspector, or Veterinary
 "Surgeon, and the Local Authority may thereupon give notice to the dairy-
 "man to appear before them within such time not less than 24 hours as may
 "be specified in the notice, to show cause why an order should not be made
 "requiring him not to supply any milk therefrom within the district, until
 "such order has been withdrawn by the Local Authority."

5. He shall in all matters act under and carry out the instructions of the Health and Port Sanitary Committee, to whom he shall be directly responsible for the due performance of all duties appertaining to his appointment, or in relation thereto.

6. He shall execute any other duties from time to time in connection with his appointment as Meat Inspector, which may be required of him by the Health and Port Sanitary Committee, or the Medical Officer of Health, without extra remuneration.

7. He shall be paid a salary of £140 per annum as Inspector of Meat, payable quarterly. The appointment shall be determined by one calendar month's notice.

8. He shall reside within the Borough of Cardiff.

9. He shall report to the Health and Port Sanitary Committee every fortnight and annually as to the works performed by him as Inspector of Meat.

The duties and salary in connection with the above appointment are in addition to the duties of his appointment under the Cardiff Corporation as Veterinary Inspector, under the Diseases of Animals Act, at a salary of £100 per annum, and also in addition to his duties as Veterinary Surgeon to the Health Department of the Cardiff Corporation at a salary of £60 per annum.

It is understood and agreed that he shall devote the whole of his time to the service of the Cardiff Corporation, in order to satisfactorily discharge the duties of his several appointments under the Cardiff Corporation."

During the year under consideration, I reported that the inspection of butchers' shops and provision stores could, with advantage, be carried out to a greater extent, and with a slight administrative change in the Health Department, and your Committee agreed to the appointment of a special Inspector having experience as a butcher and meat salesman. Inspector Macgregor was thereupon appointed for this purpose. At the same time by an arrangement between the Health Committee and the Property and Markets Committee, Mr. N. Rees the Superintendent of the Roath Abattoirs, and three of his Assistants were appointed Inspectors under the provisions of the Towns Improvement Clauses Act, to assist in the inspection of meat at the Public Abattoirs. Your Committee has thus a staff of one Veterinary Surgeon, and five special Inspectors engaged in the inspection of meat and provisions, besides the Medical Officers of Health, and Inspector of Nuisances, who have statutory duties in this respect. Further, the Cardiff Port Sanitary Authority appointed the Chief Port Inspector Mr. D. Jenkins, Inspector under the Contagious Diseases (Animals) Acts, to carry out the orders of the Board of Agriculture made under those Acts in connection with cattle and carcasses on board ships, landed and slaughtered at the Foreign Animals Wharf at the Docks. Your Committee also had under consideration the question of a more stringent examination of carcasses and meat brought into the Borough from outside districts. The question, which is one of considerable difficulty, can only be solved by the establishment of Meat Stations, or places of inspection through which all such meat must pass before being supplied to the consumer. At present no power exists for establishing any such system, and in all probability it would be necessary to obtain this power by the insertion of a clause in a Local Act of Parliament based on the recommendation of the Royal Commission on Tuberculosis.

The following are the drafts of clauses which have been submitted to your Committee for this purpose:—"The Cardiff Urban Sanitary Authority may require that all meat slaughtered elsewhere than in a public slaughter-house, and brought into their district for sale, and passed as sound be stamped," and "the Authority may require that all meat slaughtered elsewhere than in a public slaughter-house, and brought into their district for sale be taken to a place or places appointed by the Cardiff Corporation, when such meat may be inspected, and that the Corporation be empowered to make a charge to cover the reasonable expenses attendant on such inspection."

The following table gives the amount of meat in pounds, found by the Medical Officer of Health to be unfit for food, and destroyed either with the consent or by an order of a Magistrate, in each year during the period 1891-1900:—

Year.				Meat.
1891	...	..	...	2,065 lbs.
1892	...	...	...	1,326 "
1893	...	...	...	6,214 "
1894	...	...	...	3,209 "

Year.				Meat.
1895	...	...	...	4,523 lbs.
1896	...	...	...	3,896 "
1897	...	...	...	10,824 "
1898	...	...	...	9,929 "
1899	...	...	...	14,205 "
1900	...	...	...	21,217 "

During the year 1900, the number of animals slaughtered in the Public Slaughter-houses in the Borough, was as follows :—

			Roath Abattoir.	Canton Abattoir.
Beasts	...	...	5,629	699
Sheep	...	...	47,849	5,460
Calves	...	...	3,820	992
Pigs	...	...	26,582	3,632
			<u>83,880</u>	<u>10,783</u>

UNSOOUND MEAT SEIZED OR SURRENDERED DURING THE YEAR, 1900.

Place of Seizure.			Number of Animals.	Number condemned by Magistrate.	Number destroyed by arrangement with Owner.	Total Weight in Lbs.
Roath Slaughter-house	...	...	30	2	28	13,495
Canton Slaughter-house	...	...	1	—	1	840
Great Western Railway Station	...	...	2	—	2	90
Wharf, Roath Basin	...	...	1	—	1	1,400
Total	..	...	34	2	32	15,825

OTHER ARTICLES OF FOOD SEIZED OR SURRENDERED DURING THE YEAR, 1900.

Place of Seizure.			Description of Articles seized.	Condemned by Magistrate.	Destroyed by arrangement with Owner.	Total Weight in Lbs.
Great Western Railway Station	...	...	70 Rabbits	—	1	156
Great Western Railway Station	...	...	30 Boxes Mackerel	—	1	2,520
Stores, Canal Wharf	...	...	17 Bags Gooseberries	—	1	1,904
Christina Street	...	...	28 Pieces of Bacon	1	—	196
Shop	...	...	11 Pieces of Beef	1	—	56
Warehouse, Tredegar Street	...	...	Box of Hams	—	1	560
Total	...	..		2	4	5,392

PUBLIC HEALTH LABORATORY.—The Laboratory is under the control of a Joint Committee consisting of members of the Health Committee of the Cardiff Corporation and of members of the Sanitary Committee of the Glamorgan County Council, together with representatives of the Technical Instruction Committees of the Corporation and County Council. Professors C. M. Thompson and F. A. Dixon representing the University College of South Wales and Monmouthshire act upon the committee in a consultative capacity, as the Laboratory is utilized for the instruction of Students and Medical Practitioners in the Public Health Department of the Medical Faculty of the College. The Medical Officers of Health of the County of Glamorgan and of the County Borough of Cardiff, respectively, are the Directors of the Laboratory.

The work, which commenced in January, 1900, on the appointment of W. G. Savage, M.D., B.Sc., as Bacteriologist, rapidly increased, and an Assistant, Mr. J. H. Sugden, B.Sc., A.I.C., was appointed in August.

The investigations carried out have been of extreme importance and utility, and comprise a systematic Chemical and Bacteriological Examination of the Public Water Supplies in the County and Borough of various foods and of the Milk supplies of the district. The work in connection with Infectious Disease has been of great practical value, more particularly that relating to some cases of plague and suspected plague.

The bacteriological examination of Pathological specimens, of carcasses of animals diseased or suspected to be diseased and seized at the Public Slaughter-houses and Markets, also formed an important part of the Laboratory work. Much has also been done on behalf of the Cardiff Hospital for Infectious Diseases in connection with the diagnosis and the determination of the duration of infection. A detailed account of all the work is given in the following Annual Report presented by Dr. Savage to the Joint Committee.

To the Chairman and Members of the Laboratory Joint Committee.

GENTLEMEN,

I have the honour of submitting to you my First Annual Report on the work done at the Cardiff and County Public Health Laboratory for the year 1900.

The figures given and results obtained are based on the entries in the books of the Laboratory, which are arranged so as to keep accurate records of all work done.

The Laboratory consists of a bacteriological department of two rooms, a chemical laboratory, a small photographic developing room, a combined museum and lecture room, offices for Directors and Bacteriologists, and a specially fitted up room for the few animals required. I had the honour to be appointed your Bacteriologist in November, 1899, beginning my duties December 18th, 1899, and at once commenced, in conjunction with the Directors, completing the equipment of the existing Laboratory.

The Laboratory is now well equipped in its several departments, and during the whole of 1900 continuous work has been carried on. Owing to the rapid increase of the work done, I was unable to cope with it unaided, and on the recommendation of the Directors, you appointed Mr. J. H. Sugden, B.Sc. A.I.C., Assistant to the Bacteriologist. Mr. Sugden commenced his duties August 13th, 1900.

At the meeting of the Laboratory Joint Committee, held September 7th, 1900, an extended scale of fees was authorised. This scale of fees, together with further information in regard to the resources of the Laboratory, and the nature and scope of the classes, has been sent to all medical men in Cardiff and the Administrative County of Glamorgan.

The work done consists of the examination of specimens sent in by medical men, for which fees are charged, and of work sent in by the Medical Officer of Health for Cardiff, and the Medical Officer of Health to the Glamorgan County Council, the two Directors of the Laboratory.

The University College of South Wales and Monmouthshire has organised a Public Health Department in connection with the Laboratory, and during 1900 a number of classes have been held. These, together with the number of students who have attended them, are shown in Table IV.

TABLE IV.

Classes held in 1900 :—

Nature of Class.	When held.	Lecturer or Teacher.	No. of Students.
Chemistry—Laboratory Instruction & Lectures	January to March ...	Dr. Savage.	4
Bacteriology—Lectures and Practical Class...	April to June ...	Dr. Savage.	7
Practical Out-door Sanitary Work ...	Six Months' course	{ Dr. Williams and Dr. Walford. }	4
Chemistry—Laboratory Instruction & Lectures	October to December	Dr. Savage.	5
Lectures to Sanitary Inspectors—Part A ...	January & February	Dr. Savage.	8
" " " " B ...	February to May ...	{ Dr. Williams Dr. Walford. }	7
" " " " A ...	October & November	Dr. Savage.	9
" " " " B ...	Nov., Dec., & in 1901	{ Dr. Williams Dr. Walford. }	22
		Dr. Savage. }	

Among other features of interest in regard to the work done during 1900, the following may be mentioned :—

1.—THE EXAMINATION OF WATER SUPPLIES. The facilities for contamination of drinking water and the frequency of the occurrence has repeatedly been pointed out by those responsible, but it has only been possible to take steps to practically carry out the very important and necessary work of its systematic examination, now that a properly equipped laboratory is at the disposal of the Authorities.

The examination of water supplies can be considered under two classes.

The first class includes the examination of local sources of water supply, such as wells and springs. These are too numerous to examine systematically at regular intervals, but many have been examined every quarter. In this way a large number of polluted waters have been detected and in many cases the wells have been closed.

Under the second class are included the main water supplies for large towns and districts. It is now widely accepted that all public supplies should be systematically examined at frequent intervals in order to see if unsuspected contamination is present, and in this way to guard against infection and the widespread distribution of dangerous diseases such as Typhoid Fever.

This very important measure is as far as possible carried out, and arrangements are made to examine all the larger water supplies in the administrative County systematically, every quarter, both chemically and bacteriologically.

The Cardiff water supplies have been examined every month since April, 1900.

A considerable number of drinking waters from ships have also been examined.

2.—EXAMINATION OF SEWAGE AND SEWAGE EFFLUENTS. Work in this direction was only commenced towards the end of the year, but it is hoped that it will be possible to largely extend this work, it being very important to have reliable estimations in regard to the extent of purification obtained by the different processes in use in the area served by the Laboratory.

3.—EXAMINATION OF FOOD. The importance of purity and freedom from dangerous disease germs of the common articles of food need not be insisted upon; it is therefore satisfactory to note that a considerable number of examinations of this kind have been made. Thus a number of specimens of infected or diseased meat from the Cardiff Slaughter-houses have been examined, and also samples of milk from various districts for noxious disease germs.

As an example illustrating the importance of such examinations, it may be mentioned that in a sample of milk received July 18th, from the Neath Rural District Council, very large numbers of a frequently dangerous organism, the *Bacillus Coli communis*, were found, and in an actively virulent condition. These were again found three weeks later, but in fewer numbers, and the milk was not allowed to be used until further examinations were satisfactory.

4.—SPECIMENS SENT IN BY MEDICAL MEN. An important feature of the work done has been the examination of specimens sent in by medical men from Cardiff and the administrative County. They have mainly consisted of specimens of suspected Diphtheria, Typhoid Fever or Tuberculosis, though a considerable number of other specimens have been examined. The very considerable number of specimens received (e.g., 243 suspected Diphtheria) shows how extensively the facilities offered are appreciated, and the importance to the community at large of a greater precision in diagnosis can hardly be over-estimated. Many slight and otherwise unrecognised cases, of say Diphtheria, are cleared up by bacteriological examination and possible centres for the spread of disease are thus removed.

Every effort is made to give a prompt bacteriological report, and for Diphtheria, where promptitude is so especially important, for specimens received by 5.0 p.m. at the Laboratory, reports are sent off by 11.0 a.m. the following morning (except under exceptional circumstances).

5.—SPECIAL INVESTIGATIONS IN THREATENED EPIDEMICS. Epidemics are liable to break out at any time, and to check them in their early stages promptitude is essential, and in this connection as well as for purposes of general diagnosis, bacteriological investigation is often of the greatest service.

During 1900 a very important threatened epidemic has been the *Plague*, and Cardiff as a large and important port, has offered exceptional facilities for its introduction.

During the year three suspected cases have been bacteriologically investigated. The first case occurred in June. The patient was a sailor who was notified to the Medical Officer of Health of Cardiff, as a suspected case of *Plague*. Bacteriological investigations showed conclusively that it was not a case of *Plague*.

The second suspected case occurred in September, the patient being a sailor from Rosario, who travelled to Cardiff by rail from South Shields. He rapidly became ill, and presenting suspicious symptoms, was notified by his Medical attendant as a possible case of *Plague*. Material was obtained for bacteriological examination on October 2nd, and in less than 24 hours I was enabled to give a bacteriological report pointing strongly to the case being one of *Plague*. This was subsequently completely confirmed in the Laboratory.

The third case was a patient in the Penybont District. He was examined November 23rd, and here the bacteriological evidence showed conclusively that it was not a case of *Plague*.

As indicated above, the work of the Laboratory has very largely increased and extended. There are still, however, numerous directions in which its practical utility can be extended—for example, in the increased investigation of food stuffs, such as infected milk and meat, and in more accurate diagnosis of mild cases of Diphtheria in schools, and so possibly preventing their temporary closure, and it is hoped that in future years more work will be done in these and other equally important directions.

I remain, Gentlemen,

Your obedient Servant,

February 16th, 1901.

WILLIAM G. SAVAGE.

SANITARY CONDITION OF THE DISTRICT AND SUMMARY OF WORK

PERFORMED BY THE OFFICERS OF THE
MEDICAL OFFICER OF HEALTH'S DEPARTMENT.

The systematic house to house inspection of the district was continued throughout the year. The following tables show the nature of the work carried out by the various Inspectors, acting under the supervision of Mr. D. Vaughan.

In each case where a nuisance is recorded, notices were served and instructions given to the owner or occupier of the premises to remedy the defects, and this was effected under the direction of the District Inspector. The erection of new houses, together with the construction of their drainage, is entirely under the control of the Borough Engineer and the officers of his department, who are ever ready to render any advice or assistance to your Health Department. All new dwellings are now constructed subject to the new Building Bye-laws, which came into force on the 21st March, 1900. These Bye-laws are in many respects an improvement on the old Regulations, and give the Local Authority more complete control over the sanitary arrangements of new houses. Since the adoption of these Bye-laws no house will be constructed without an efficient flushing cistern to each water-closet, and further, the 98th Bye-law provides that—"the occupier of any premises in or for which any water-closet is for the time being provided, shall cause such water-closet to be at all times properly supplied with a sufficient quantity of water for proper flushing thereof."

This section is retrospective in its action, and includes premises constructed before the adoption of the Bye-laws—a matter of extreme importance, as it was shown in a previous report that an exceedingly large number of houses have been built without any flushing cisterns attached to their water-closets. Moreover, provision is made for the disconnection of house drains from the main sewers, by means of traps and ventilation, on a definite plan set out in the Bye-laws on the lines of the model Bye-laws of the Local Government Board, and in accordance with modern ideas.

For the purposes of inspection, the Borough is divided into five districts as follows:—

				Estimated Population.	Name of District Inspector.
District No. 1 comprising	Canton Ward Riverside Ward	} containing an area of 762 acres		42,909	T. W. WARREN, Certifi. San. Inst.
„ No. 2 „	Adamsdown Ward Splott Ward	} containing an area of 3,024 acres		30,883	W. FISHER, Certifi. San. Inst.
„ No. 3 „	Roath Ward Park Ward	} containing an area of 1,299 acres		41,532	F. GLOVER, Certifi. San. Inst.
„ No. 4 „	Central Ward Cathays Ward	} containing an area of 842 acres		33,191	S. EVANS, Certifi. San. Inst.
„ No. 5 „	South Ward Grangetown Ward	} containing an area of 2,424 acres		32,355	J. W. HOLDEN, Certifi. San. Inst.

In addition to the District Inspectors there are also others as follows:—Two Inspectors for Infectious Diseases, one for Lodging Houses, one Inspector of Dairies, Cowsheds, and Milkshops (who also acts as Inspector under the Sale of Food and Drugs Act), one Inspector of Workshops, six Inspectors of Meat, one of whom is a Veterinary Surgeon. The general house inspection of the district is carried out by the Chief Inspector and the five District Inspectors, and I cannot speak too highly of the manner in which he and his assistants have performed their difficult duties.

As mentioned in previous reports there are no large insanitary areas in Cardiff which could conveniently be dealt with for the purposes of an Improvement Scheme under Part I. of the Housing of the Working Classes Act, 1890, but a considerable amount of Property has been

dealt with under Part II. of the Act, and Closing Orders have been obtained against owners of a large number of houses which were for many reasons unfit for habitation. Amongst the dwellings which have been permanently closed either by a Closing Order or by the voluntary action of the owner may be mentioned:—Mill Lane Court, 34 houses in Stanley Street, 12 houses in Leckwith Road, Kettle Court, Evans Court, Union Buildings, Sandon Court, Dalton Court, Gainors Court, Rising Sun Court, Jones' Court (Womanby Street), The Tunnel (Queen Street), Temperance Terrace (Working Street), Queen's Place, and Mason's Arms Court. During the year under consideration, by resolution of the Health Committee, I presented a detailed report upon the sanitary condition of the remainder of the Courts in Cardiff, including such houses as might be dealt with singly by Closing Orders. The report referred to 134 houses, containing an aggregate of 331 rooms and a total population at the time of inspection amounting to 395 persons. As, however, this report was not adopted and acted upon until the following year, an account of the proceedings taken in each case will be given in the next Annual Report. From the inspection of the Courts, and from the general inspection of the district, it does not appear that overcrowding in houses exists to any extent, or at any rate to the extent in which action can be taken by the Sanitary Authority. It is usual to estimate the density of populations in large towns upon the average number of persons living on an acre of ground, and from the foregoing Tables in this Report it will be seen that in Cardiff this amounts to 32 persons per acre as compared with 33·8 the average density in the 33 large towns of England and Wales.

These densities are calculated on the Registrar General's Estimates of the population, and are therefore in the case of Cardiff too high. A better method of detecting overcrowding and of more importance in relation to health is a statement of the number of persons living in each occupied room in any given district or locality. In the Census Report of 1891 it is proposed to take as a standard of overcrowding, tenements which have more than two occupants per room. With the object of ascertaining if this condition existed to any extent within the Borough I caused a special inspection of certain districts to be made, and by this means ascertained the average number of inmates per room in these districts. The results of this inspection are given in the following Table, and from the summary it will be seen that the average of two per room is in a very few instances exceeded.

Out of a total of 1,790 houses examined for the purpose of this inquiry, I found only 24, or 1·3 per cent., with a higher average than two occupants per room, whilst only 623 or 35 per cent. contained more than an average of one occupant per room, and this in districts where, if it existed at all, overcrowding might be expected to exist.

HOUSE INSPECTION TABLE.

CENTRAL WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Love Lane ...	1	5	2	...	1
" " ...	1	6	1	...	1
" " ...	30	4	1	2	21
" " ...	8	2	1	2	4
Daniel Street ...	2	7	1	...	...
" " ...	3	6	1	...	1
" " ...	4	6	2	...	1
" " ...	9	5	1	...	5
" " ...	2	5	2	...	2
" " ...	5	4	1	...	1
" " ...	2	4	2	...	1
Giles' Court ...	4	4	1	...	2
Rodney Street ...	2	7	2	...	2
" " ...	3	6	1	...	1
" " ...	8	6	2	...	3
" " ...	1	5	1	...	...
" " ...	1	5	2	...	1
" " ...	2	4	2	...	1
Tredegar Street...	2	7	1	...	2
" " ...	2	7	2	...	...
" " ...	17	6	1	...	8
" " ...	2	6	2	...	1
" " ...	6	5	1	...	1
" " ...	1	5	2	...	...
" " ...	3	4	1	1	2
" " ...	2	4	2	2	2
Edwards Terrace ...	1	11	1	...	...
" " ...	1	9	1	...	...
" " ...	2	8	1	...	...
" " ...	13	7	1	...	...
" " ...	11	6	1	...	...
Pembroke Terrace ...	3	12	1	...	...
" " ...	9	11	1	...	...
" " ...	1	11	3	...	...
" " ...	1	10	1	...	...
" " ...	4	9	1	...	...
" " ...	1	9	2	...	...
Millicent Street ...	1	12	1	...	1
" " ...	1	11	1	...	...
" " ...	1	10	1	...	...
" " ...	2	9	1	...	1
" " ...	2	7	1	...	...
" " ...	1	7	2	...	...
" " ...	5	6	1	...	...
" " ...	12	5	1	...	6
" " ...	1	5	2	...	...
" " ...	11	4	1	...	4
" " ...	1	4	2	...	...
" " ...	9	3	1	1	6
" " ...	1	3	2	...	...
Bryant Court ...	2	2	1	...	...
Gulliver's Court ...	2	3	1	...	...
Evans' Court ...	1	4	1	...	...
" " ...	1	3	1	...	1
Jenkins' Court ...	5	2	1	1	2
Matthews' Court ...	6	2	1	...	...
Ruperra Street ...	5	6	1	...	2
" " ...	4	6	2	...	2
" " ...	1	5	1	...	...
" " ...	2	5	2	...	2
" " ...	1	3	1	...	...

CENTRAL WARD—Continued.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Station Terrace ...	3	7	1	...	...
" " ...	2	7	2	...	1
" " ...	4	6	1	...	1
" " ...	1	6	2	...	...
" " ...	1	4	1	...	...
Homfray Street...	2	7	1	1	1
" " ...	1	6	1	...	1
" " ...	6	5	1	1	4
" " ...	9	4	1	4	4
East Terrace ...	3	8	1	...	3
" " ...	5	7	1	...	2
" " ...	3	7	2	...	1
" " ...	5	6	1	...	1
" " ...	1	5	1	...	...
" " ...	1	4	1	...	1
Little Frederick Street	1	6	3	...	...
" " ...	1	6	2	...	1
" " ...	1	5	1	...	...
" " ...	7	4	1	...	3
" " ...	6	4	2	...	4
" " ...	1	8	1	...	...
" " ...	1	7	3	...	...
" " ...	1	6	1	...	1
" " ...	5	4	1	...	1
" " ...	3	2	1	1	1
Total ...	322	506	116	16	102

SOUTH WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Christina Street...	32	7	1	...	7
" " ...	2	7	3	...	0
" " ...	14	7	2	...	7
" " ...	4	6	1	...	1
" " ...	2	6	2	...	1
Angelina Street...	3	9	2	...	1
" " ...	5	7	1	...	1
" " ...	3	7	2	...	2
" " ...	11	6	1	...	3
" " ...	7	6	2	...	4
Maria Street ...	1	10	1	...	0
" " ...	2	7	3	...	1
" " ...	15	7	2	...	5
" " ...	10	7	1	...	0
Total...	111	99	24	...	33

CATHAYS WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Cairns Street ...	67	6	1	1	25
" " ...	34	6	2	1	23
" " ...	11	4	1	...	4
Total...	112	16	4	2	52

PARK WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Milton Street ...	1	8	1	...	1
" " ...	18	6	1	...	8
" " ...	3	6	2	...	2
" " ...	26	4	1	...	15
" " ...	2	4	2	..	2
Total ...	50	28	7	...	28

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Duffryn Street ...	1	7	4	...	1
" " ...	1	6	1	...	1
" " ...	5	6	2	...	2
" " ...	4	5	1	...	1
" " ...	1	4	1	...	...
Taff Street ...	1	5	2	...	1
" " ...	9	4	1	...	3
" " ...	8	4	2	...	2
" " ...	1	2	1	...	...
Cycle Street ...	1	6	1	...	...
" " ...	28	4	1	...	13
Platinum Street ...	16	4	1	1	5
" " ...	1	4	2	...	1
Constellation Street ...	32	7	1	...	11
" " ...	9	7	2	...	4
" " ...	1	8	2	...	...
" " ...	23	6	1	...	8
" " ...	9	6	2	...	6
" " ...	1	6	3	...	...
Windsor Road ...	1	16	1	...	...
" " ...	4	8	1	...	1
" " ...	3	8	3	...	2
" " ...	2	8	2	...	1
" " ...	8	7	1	...	4
" " ...	3	7	2	...	3
" " ...	5	6	1	...	1
" " ...	1	6	2	...	0
Total ...	179	167	44	1	71

SPLOTT WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Janet Street ...	17	6	1	...	7
" " ...	46	6	2	1	36
Total ...	63	12	3	1	43

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Gloucester Street ...	29	6	1	...	5
" " ...	3	6	2	...	...
" " ...	6	7	1	...	...
" " ...	4	7	2	...	1
" " ...	1	10	1	...	...
Brunel Street ...	7	6	1	...	3
" " ...	1	6	2	...	...
Pontcanna Terrace ...	5	5	1	...	...
" " ...	4	6	1	...	...
" " ...	2	6	2	...	1
Stephenson Street ...	13	6	1	...	1
" " ...	4	6	2	...	3
Mortimer Road ...	16	4	1	...	4
" " ...	30	6	1	...	5
" " ...	1	7	1	...	...
Telford Street ...	20	6	1	...	4
" " ...	4	6	2	...	2
Rennie Street ...	1	4	1	...	...
" " ...	19	6	1	...	3
" " ...	9	6	2	...	2
Trevethick Street ...	13	6	1	...	1
" " ...	4	6	2	...	3
Severn Road ...	1	6	1	...	...
" " ...	34	7	1	...	5
" " ...	7	7	2	...	3
Green Street ...	1	3	1	...	...
" " ...	1	5	1	...	...
" " ...	2	6	1	...	1
" " ...	12	7	1	...	...
" " ...	10	7	2	...	4
" " ...	1	8	2	...	...
Heath Street ...	1	8	1	...	...
" " ...	8	6	1	...	...
" " ...	2	5	1	...	...
Brook Street ...	1	9	1	...	...
" " ...	19	8	1	...	...
" " ...	5	8	2	...	...
" " ...	13	7	1	...	2
" " ...	1	7	2	...	1
Mark Street ...	16	8	1	...	1
" " ...	6	8	2	...	1
" " ...	6	7	1	...	1
" " ...	4	7	2	...	3
Craddock Street ...	2	9	1	...	...
" " ...	1	7	1	...	...
" " ...	92	6	1	...	16
" " ...	26	6	2	...	22
Total ...	468	306	63	...	98

CANTON WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Pontcanna Place ...	12	6	1	...	2
" " ...	4	6	2	...	1
" " ...	1	5	1	...	...
William Street ...	3	6	1	...	...
" " ...	2	6	2	...	...
Gray Street ...	31	6	1	...	5
" " ...	1	6	2	...	...
" " ...	16	5	1	...	2
Gladstone Crescent ...	1	7	1	...	1
" " ...	7	6	1	...	...
" " ...	2	6	2	...	2
" " ...	7	4	1	...	...
Total... ..	87	69	16	...	13

GRANGETOWN WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Saltmead Road ...	25	6	1	...	8
" " ...	15	6	2	1	11
Total... ..	40	12	3	1	19

ROATH WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Nora Street ...	37	6	1	1	9
" " ...	6	6	2	...	4
" " ...	21	4	1	...	14
" " ...	1	4	2	...	1
Helen Street ...	42	6	1	...	9
" " ...	18	6	2	...	16
" " ...	14	4	1	...	9
" " ...	1	4	2	...	0
Agate Street ...	9	6	1	...	5
" " ...	8	6	2	...	6
Topaz Street ...	25	6	1	...	5
" " ...	5	6	2	...	3
" " ...	130	6	1	1	41
" " ...	51	6	2	1	42
Total	368	76	21	3	164

SUMMARY OF FOREGOING TABLES.

WARDS.						Number of Houses.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Central	...	...	...	...	...	322	16	102
South	...	...	...	...	...	111	...	33
Cathays	...	...	...	...	...	112	2	52
Park	...	...	...	...	...	50	...	28
Adamsdown	...	...	...	...	...	179	1	71
Riverside	...	...	...	...	...	458	...	98
Canton	...	...	...	...	...	87	...	13
Roath	...	...	...	...	...	368	3	164
Grangetown	...	...	...	...	...	40	1	19
Splott	...	...	...	...	...	63	1	43
Grand Total ...						1,790	24	623

HOUSE INSPECTION FOR THE YEAR 1900.

CENTRAL WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with drain.	Number of Water Closets	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with water.	Dampness of Premises.	Other Nuisances.
North Road	49	7	1	8	29	4	56	...	38	26	22	8
Junkers Place	3	1	...	...	...	...	3	...	3	3	...	1
Rowlands Buildings	4	...	...	...	...	...	3	...	3	3	...	...
Clytha Place	27	3	...	1	...	...	27	...	22	21	19	...
Blackweir Terrace...	30	3	2	2	...	...	30	...	23	7	3	3
Bute Terrace	31	...	1	...	...	...	32	...	28	2	...	9
Giles Court	4	1	...	...	...	...	4	...	4	4	...	...
David Street	31	3	1	1	...	...	30	...	30	27	9	10
Mary Ann Street	50	4	...	4	2	...	43	...	43	36	6	14
Stanley Street	7	...	...	...	...	...	7	...	6	7	...	2
Love Lane	46	1	2	2	...	...	39	...	39	39	6	10
Millicent Street	81	1	2	2	...	...	69	...	55	38	4	10
East Terrace	21	2	1	...	1	...	21	...	21	19	2	7
Little Frederick Street	35	2	1	4	2	...	30	...	29	26	5	9
Ruperra Street	16	...	...	1	...	...	16	...	16	16	1	3
Rodney Street	18	...	...	1	...	...	18	...	18	17	...	...
Tredegar Street	47	2	1	2	...	...	46	...	43	46	1	8
Charlotte Street	5	...	...	...	...	...	4	...	4	...	...	...
Homfray Street	25	2	...	3	2	...	24	...	24	9	6	6
Charles Street	71	9	1	8	20	4	111	...	4	5	4	6
Charles Street Lane	2	1	...	...	1	...	1	...	...	...	...	...
Old Barracks	4	1	...	...	2	...	4	...	3	1	...	...
Pembroke Terrace...	20	10	2	4	14	2	39	...	18	...	...	...
Edwards Terrace	29	5	2	3	12	...	57	...	21	18	3	...

SOUTH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with drain.	Number of Water Closets	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Crichton Street ...	34	...	...	3	3	...	29	...	29	29	...	6
Crichton Place ...	14	...	2	3	3	...	14	...	14	14	...	7
North Church Street	28	1	...	9	4	...	25	...	19	21	...	2
South Church Street	17	...	...	...	...	...	16	...	11	11	...	2
Maria Street ...	43	...	...	7	...	...	32	...	30	24	...	11
Sophia Street ...	50	...	...	8	...	...	38	...	38	38	8	16
Christina Street	59	...	...	8	6	...	52	...	47	43	8	19
Angelina Street	45	...	1	1	4	...	36	...	36	36	16	19
Nelson Street ...	18	...	...	1	...	...	16	...	16	16	2	6
Frances Street ...	26	...	...	1	...	...	24	...	24	24	9	11

CATHAYS WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Miskin Street ...	47	9	1	4	14	1	62	...	47	40	1	...
Cranbrook Street	48	14	1	2	15	...	48	...	48	32	10	4
Fitzroy Street ...	18	...	...	...	...	...	18	...	18	18	6	5
Thesiger Street	67	3	1	6	3	...	70	1	69	68	12	14
Coburn Street ...	109	19	...	2	18	...	111	...	108	107	4	31
Cairns Street ...	198	7	4	6	2	...	198	...	198	198	59	77

PARK WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Glenroy Street ...	65	...	...	2	...	...	65	...	65	47	6	34
Kincraig Street ...	43	...	...	...	...	...	69	...	43	13	17	1
Plasnewydd Place ...	18	...	...	...	...	...	18	...	18	9	...	...
Upper Kincraig Street	76	...	...	...	12	...	76	...	76	74	14	8
Strathmairn Street...	150	1	...	1	...	...	150	...	150	86	22	30
Milton Street ...	65	1	1	5	...	...	65	...	65	65	6	15

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Garth Street ...	20	...	1	...	...	...	18	...	18	18	...	14
Garth Court ...	5	...	...	...	...	...	5	...	5	...	...	...
Dews Court ...	4	...	...	...	1	...	4	...	4	4	...	4
Taff Street ...	20	1	...	...	1	...	20	...	20	20	...	7
Duffryn Street ...	21	...	2	...	...	...	21	...	21	21	...	9
Windsor Road ...	30	2	...	1	...	...	31	...	30	26	...	11
Platinum Street ...	16	2	...	...	...	...	16	...	16	16	...	14
Constellation Street ...	80	...	1	...	2	...	80	...	80	78	...	31
Tin Street ...	22	1	...	...	...	...	22	...	22	22	...	8
Cycle Street ...	29	1	1	...	1	...	29	...	29	29	...	14

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Wyndham Street ...	69	13	2	27	32	...	69	...	69	60	12	14
Wyndham Place ...	19	...	...	2	5	...	19	...	17	17	...	...
Lewis Street ...	31	6	...	12	14	...	31	...	31	31	10	13
Blackstone Street ...	21	2	...	2	...	...	21	...	21	21	8	7
Heath Street ...	8	2	...	6	...	...	8	...	8	7	...	2
Severn Road ...	24	9	2	8	9	...	24	...	12	21	...	8
Brook Street ...	45	...	...	...	2	...	46	...	45	27	...	...
Green Street ...	28	...	...	...	...	...	27	...	28	27	...	...
Mark Street ...	33	...	...	...	...	...	33	...	33	33	...	...
Halket Street ...	45	10	2	16	20	...	45	...	45	43	...	30
Pontcanna Terrace ...	12	...	1	...	1	...	12	...	12	12	1	...
William Street ...	7	...	...	...	...	...	8	...	6	6	...	...
Gloucester Street ...	46	1	1	3	3	...	46	...	46	44	10	7
Brunel Street ...	8	...	...	...	...	...	9	...	8	7	2	3
Stephenson Street...	18	...	...	...	...	...	18	...	18	...	...	...
Telford Street ...	26	4	...	3	1	...	26	...	26	26	10	12
Mansfield Street ...	14	1	...	...	...	...	14	...	14	4	2	2
Smeaton Street ...	33	5	...	2	...	...	33	...	33	22	6	10

CANTON WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sewery Sinks connected direct with drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with water.	Dampness of Premises.	Other Nuisances.
Leekwith Road ...	69	2	...	11	20	...	71	...	63	63	7	12
Philip Street ...	6	...	...	...	2	...	6	...	4	4	...	...
Delta Street ...	4	...	...	...	...	...	4	...	4	...	4	...
Atlas Road ...	45	7	...	12	13	...	45	...	45	21	...	...
Basset Street ...	7	...	...	...	...	...	7	...	7	...	...	...
Thurston Street ...	10	...	...	...	...	...	10	...	10	...	...	...
Rolls Street ...	22	5	...	5	8	...	22	...	22	22	6	7
Severn Road ...	31	6	...	8	12	...	31	...	31	28	...	3
Gray Street ...	59	...	1	2	1	...	59	...	59	39	...	3
Pontcanna Place ...	23	4	2	6	5	...	23	...	23	23	5	6
Gladstone Crescent ...	17	...	...	...	...	...	17	...	17	17	...	3
Mortimer Road ...	51	7	...	7	6	...	51	...	51	50	6	8

ROATH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sewery Sinks connected direct with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Sapphire Street ...	54	21	...	20	27	...	75	...	75	72	12	15
Emerald Street ...	59	20	...	9	13	...	59	...	58	58	16	17
Ruby Street ...	57	3	...	2	1	...	57	...	57	57	3	13
Topaz Street ...	61	2	3	1	...	...	61	...	61	61	1	2
Agate Street ...	18	2	...	1	1	1	19	...	16	15	2	2
Diamond Street ...	70	9	...	7	5	...	70	...	70	70	10	12
Nora Street ...	74	4	1	4	1	...	74	...	74	74	10	13
Helen Street ...	80	9	6	14	2	...	80	...	80	80	15	20
Pearl Street ...	193	14	4	13	3	...	193	...	193	190	32	57

GRANGETOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sewery Sinks connected direct with Drains.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Dorset Street ...	44	1	...	2	...	...	42	...	42	36	...	20
Chester Street ...	34	6	4	4	8	...	34	...	17	34	...	45
Durham Street ...	30	...	...	...	4	...	30	...	6	15	...	9
Chester Place ...	10	...	...	...	...	...	9	...	...	4	1	2
Bromsgrove Street...	33	...	...	12	9	...	32	...	32	32	...	12
Hewell Street ...	69	4	2	11	4	1	67	...	65	65	7	33
Saltmead Road ...	105	...	...	5	1	...	80	...	79	79	3	11

SPLOTT WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected direct with Drain.	Number of Water Closets	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Nuisances.
Llanelly Street ...	59	1	1	...	...	...	59	...	59	57	...	75
Pontypridd Street ...	70	...	1	...	...	...	70	...	70	58	...	60
Wimborne Street ...	72	2	...	1	...	...	72	...	72	72	...	63
Tenby Street ...	67	...	1	...	...	...	67	...	67	67	...	45
Milford Street ...	61	...	1	...	...	...	61	...	61	60	...	51
Aberystwyth Street ...	49	...	...	...	...	...	46	...	46	46	...	32
Janet Street ...	72	2	3	...	12	...	71	...	71	70	...	57
Adeline Street ...	83	2	...	...	1	1	80	...	80	80	...	59
Aberdovey Street ...	35	...	...	...	...	...	35	...	35	12	...	21

INSPECTION OF FACTORIES AND WORKSHOPS.

UNDER THE FACTORY AND WORKSHOP ACTS, 1878—95, AND THE SHOP HOURS ACT, 1892.

During the year a large number of workshops have been inspected. The results of these inspections are given in the annexed Tables:—

Nature of Workshops Inspected.	Number on Register.	Number of Inspections.
Tailors ...	148	407
Dressmakers ...	172	220
Milliners ...	49	78
Bakers ...	170	668
Upholsterers and Cabinet Makers	26	29
Bootmakers ...	59	103
Printers and Bookbinders ...	8	31
Carpenters and Joiners ...	23	119
Wheelwrights and Smiths ...	18	94
Laundries ...	14	30
Domestic Machine Manufacturers	4	6
Tobacco Manufacturers ...	4	2
Furriers ...	1	2
Packers ...	15	35
Jewellers ...	5	25
Leather Workers ...	12	5
Box and Paper Bag Makers	8	19
Sail and Oilskin Manufacturers	5	12
Basket Makers ...	1	1
Jam and Biscuit Works	2	2
Iron and Brass Founders ...	6	24
Blind Makers ...	3	—
Plaster Moulders ...	2	3
Tar Distillers and Paint Works	3	6
Cycle Repairers ...	10	10
Mat Makers ...	1	2
Pianoforte and Organ Manufacturers	4	1
Pipe Manufacturers ...	1	6

INSPECTION OF FACTORIES AND WORKSHOPS—*Continued.*

Nature of Workshops Inspected.	Number on Register.	Number of Inspections.
Electricians ...	3	4
Bottlers ...	26	96
Umbrella Makers ...	4	16
Hairworkers ...	2	3
Shirt and Hose Manufacturers	2	1
Boat Builders ...	4	1
Picture Frame Makers ...	4	6
Engravers and Saw Repairers ...	3	2
Scale Makers ...	1	1
Waggon Manufacturers ...	11	7
Patent Fuel Works ...	1	2
Sugar Boilers ...	5	6
Plumbers ...	14	6
Engineers ...	14	30
Ice Factory ...	1	1
	<hr/> 869	<hr/> 2,122

Notices of New Workshops from Inspector of Factories under Factory Act, 1891, Sec. 26, Sub. 2, Factory Act, 1895, Sec. 41 = 48.

Notices from Inspector of Factories, *re* Sanitary Defects in Workshops, Sec. 4, Factory and Workshops' Act, 1878 = 1.

Notices sent by Sanitary Authority to Inspector of Factories under Sec. 3, Factory and Workshop Act, 1891 = 60.

Notice from Sanitary Authority to Inspector of Factories of overworking a boy in bakehouse at 4.57 a.m. = Fined 40s. and Costs.

WORKSHOPS.

	Bakers.	Tailors.	Dressmakers.	Milliners.	Carpenters and Joiners.	Cycle Makers.	Bottlers.	Packers.	Wheelwrights and Smiths.	Foundry.	Domestic Machine Manufacturers.	Boot Makers.	Cabinet Makers.	Sugar Boilers.	Paper Bag Makers.	Printers.	Umbrella Makers.	Laundry.	Oilskin Manufacturers.	Leather Workers.	Pipe Manufacturers.	Jewellers.	Wagon Builders.	Engineers.	Moulders.	Tobacco Manufacturers.	Hat Manufacturers.	
W.C. Accommodation provided	1	2	...	...	5	...	2	1	5	1	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Urinals provided	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Flushing Apparatus provided	6	2	3	...	4	...	3	...	2	1	1	1	1	...	1	2	1	...	...	...	...	...	...	...	...	...	...
Drains Trapped and Repaired	26	18	10	4	2	2	5	1	3	...	...	4	1	...	...	1	...	...	3	...	...	1	1	1	1	1	...
Container-pan Closets abolished	...	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Workrooms Ventilated	1	11	6	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lane washed	120	16	2	...	...	...	1	...	...	...	1	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Overcrowded	...	...	...	1	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Accumulations Removed	22	9	3	...	...	1	5	...	...	...	...	5	...	...	...	...	1	...	2	1	...	...	...	...	...	...	...
Plastering, Paving, &c., Repaired	28	8	6	...	...	...	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Broken Closet-pans	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Offensive Closets Cleansed & Repaired	5	11	8	1	5	...	...	2	1	...	...	1	1	...	1	7	...	...	...	1	1	...	...	...	...	...	...
Mauve Pit provided	4	...	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Underground Bakehouse abolished	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Animal Nuisances	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stables Drained	9	...	...	...	1	...	3	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stables Disconnected	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Drain Abolished	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Disused Well Abolished	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	233	82	43	8	18	3	25	4	12	2	2	13	7	1	2	11	2	5	2	1	1	4	1	1	8	2	1	2

SHOP HOURS ACT.

NATURE OF SHOPS INSPECTED.	Number of Inspections.	Employing Young Persons.	Employing Females.	Seats Provided.
Drapers	236	192	200	183
Bootmakers	121	101	72	60
Confectioners	96	39	74	71
Furniture Dealers	13	11	5	4
Public Houses	151	12	96	93
Fancy Dealers	42	27	31	21
Grocers	202	161	4	4
Tobacconists and Hairdressers	163	122	46	45
Ironmongers	55	36	...	...
Outfitter	73	43	1	1
Dyers' Agents	4	3	4	4
Fruiterer and Florists	62	29	20	18
China Dealers... ..	12	5	3	3
Butchers	158	131	...	...
Chemists	32	22	5	3
Stationer and Newsagents	75	63	38	35
Restaurants	58	21	43	41
Seedsmen	2	...	...	...
Cycle Dealers... ..	2	...	...	...
Jewellers	19	13	4	3
India Rubber Dealers	3	3	1	1
Domestic Machine Dealers	2	1	2	2
Umbrella Dealers	2	2	1	1
Hosiers	4	2	...	...
Shops since provided with seats	1587	1039	650	593
	...	...	...	57
				650

Proceedings taken—2 Tobacconists—1 fined 1/- and costs.

I withdrawn.

1 Hairdresser— Fined 5/- and costs.

INSPECTION OF COMMON LODGING HOUSES.—These houses are regulated by the provisions of the Public Health Act, 1875. Section 77 requires all Common Lodging Houses to be registered, and Section 80 empowers the Sanitary Authority to make Bye-Laws.

- (1) For fixing and from time to time varying the number of lodgers who may be received into a Common Lodging House, and for the separation of the sexes therein.
- (2) For promoting cleanliness and ventilation in such houses.
- (3) For the giving of notices and the taking precautions in the case of any infectious diseases; and
- (4) Generally for the well ordering of such houses.

In the year 1891, your authority adopted Bye-laws which correspond closely with the "Model Bye-laws" of the Local Government Board.

COMMON LODGING HOUSES.

Total number on register ... ..	...	...	32
Registered rooms ... ..	...	...	138
Number of persons certified to accommodate ... ..	...	...	459
Day inspections . ... ..	...	...	539

COMMON LODGING HOUSES—Continued.

Night Inspections	...	...	...	...	94
W.Cs. cleansed and repaired	...	...	...	...	82
„ supplied with water	...	...	...	...	5
Additional W.C. accommodation provided	...	...	...	...	—
Drains trapped and repaired	...	...	...	...	20
Soil pipes ventilated	...	...	...	...	—
Special ventilation provided to rooms	...	...	...	...	32
Lime-washed	...	...	...	...	116
Overcrowded	...	...	...	...	1
Yards paved	...	...	...	...	26
Accumulations removed	...	...	...	...	72
Infectious disease discovered	...	...	...	...	1
Registered	...	...	...	...	—

SEAMEN'S LODGING HOUSES.

Total number of applications	...	...	...	...	373
„ „ Refused	...	...	...	...	55
„ „ Relinquished	...	...	...	...	208
„ „ persons licensed	...	...	...	...	110
„ „ houses, the occupiers of which have been licensed	...	...	...	...	111
Maximum number of lodgers authorised to be received in the above	...	...	...	...	1270
Number of day inspections	...	...	...	...	2324
„ night „	...	...	...	...	232
Number of houses in which sanitary improvements have been effected	...	...	...	...	279

NATURE OF SANITARY DEFECTS:—

Defective water-closets	...	...	...	...	85
Insufficient W.C. accommodation	...	...	...	...	—
Defective drains	...	...	...	...	47
Defective paving in yards	...	...	...	...	79
Defective bedroom ventilation	...	...	...	...	100
Stables without manure pits	...	...	...	...	—
Houses with walls and roofs out of repair	...	...	...	...	112
Infectious disease discovered	...	...	...	...	4
Lime-washed	...	...	...	...	262
Legal proceedings taken	...	...	...	...	5

SALE OF FOOD AND DRUGS ACT.

The following articles were analysed during the year by Mr. Thomas Hughes, F.I.C., F.C.S., Borough Analyst:—

Samples obtained.	Number of Samples.	Number of Genuine Samples.	Number of Samples Adulterated.	Fines.
Milk	404	381	23	£1 and costs; £1 and costs; £2 and costs; £3 and costs £10 and costs; £2 and costs; £2 and costs; £1 and costs £1 and costs; 1s. and costs; £1 and costs; £1 and costs £2 and costs; 5s. and costs; 1s. and costs; £4 and costs £4 and costs; £4 and costs; £4 and costs; £2 and costs £15 and costs; £15 and costs; 1 case withdrawn
Butter	39	39	...	
Bread	3	3	...	
Pepper	24	24	...	
Coffee	24	24	...	
Flour	27	27	...	
Margarine	15	15	...	
Lard	12	12	...	
Demerara Sugar	12	12	...	
Cheese... ..	12	12	...	
Baking Powder	12	12	...	
Beer	12	12	...	
Tea	6	6	...	
Sweets... ..	4	4	...	
Golden Syrup	4	4	...	
Total	610	587	23	

MAGISTERIAL PROCEEDINGS.

	Number of Cases.	Fines. £ s. d.
Proceedings under Sale of Food and Drugs Act ...	23	75 7 0
Proceedings under Seamen's Bye-laws ...	7	60 0 0
Proceedings under Common Lodging Houses ...	—	—
Proceedings under Cowsheds and Milkshops Order ...	—	—
Proceedings under Houses of the Working Classes Act ...	8	—
Proceedings under Shop Hours Act ...	3	0 6 0
Proceedings under Factories and Workshops Act ...	2	2 0 0
Proceedings under Public Health Act ...	1	5 0 0
	<u>44</u>	<u>£142 13 0</u>

In conclusion, I have the pleasure of reporting that your Inspectors of Nuisances have carried out their work in a satisfactory manner, and that they have, as usual, paid the greatest attention to their varied and important duties.

I have the honour to be, Gentlemen,

Your obedient Servant,

EDWARD WALFORD, M.D.,

MEDICAL OFFICER OF HEALTH.

Nuisances Inspected	3,790
Notices issued	3,238
Nuisances abated without legal proceedings	3,237
" " with "	1
Animals kept so as to be a nuisance	47
Injurious and foul accumulations	414
Nuisances from Smoke	3
Stagnant water under floors of houses	1
Houses unfit for human habitation	8
Defective drainage	1,108
Drains unstopped and cleansed	297
" tapped and repaired	120
" tested	769
" found defective	317
Foul and offensive W.Cs. cleansed	160
Defective apparatus to water-closets repaired	36
Water laid on to water closets	5
" " urinals	1
" " dwelling houses	28
Insufficient ventilation	3
Overcrowding notices	1
Dilapidated houses repaired	869
Dirty houses and workshops cleansed and lime-washed	121
Additional W.C. accommodation provided	6
Urinals erected	2

Houses disinfected	1,058
Articles of bedding and clothing disinfected			17,968
" " " destroyed			50

Premises visited...	845
---------------------	-----	-----	-----	-----	-----	-----	-----

Visits paid to slaughter houses	155
„ „ markets	200
Articles destroyed unfit for food—Beef, 15,868 lbs.; Fruit, 1,904 lbs.; Pork, 1,183 lbs.; Veal, 260 lbs.; Game, 164 lbs.; Mutton, 230 lbs.; Fish, 2,520 lbs.; Bacon, 96 lbs.; Ham, 560 lbs.						
Butchers' and Provision Shops inspected	1,561

Number of Cowkeepers on register	26
„ Milksellers	565

Number of Cowkeepers registered during the year	—
„ Milksellers	95

Total ...	95
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Number of visits paid to cowsheds	380
" " " milkshops	688
Notices served	33
						<hr/> 1101 <hr/>

COWSHEDS, MILKSHOPS, AND DAIRIES.

PARTICULARS OF INSPECTION.	COWSHEDS.	MILKSHOPS.
Total number inspected	380	688
Found in good condition	194	661
Impure water supply	—	—
Water closets, sinks, or drains defective	1	4
Receptacles for manure erected	—	—
Yards badly paved and accumulations of rubbish	4	17
Dairies or milkshops used for purposes incompatible with proper preservation of milk	—	—
Infectious disease amongst persons employed	—	5
Cowsheds with defective lighting, cleansing, ventilation of air space, and lime washing	5	—
Cowsheds overcrowded	—	—

CANAL BOATS.

Number of Boats on Register	...	...	...	...	36
" Inspections	...	...	...	...	87
" boats found in good condition	...	...	...	...	69
" " with wrong register numbers	...	...	...	...	4
" " registered	...	...	...	...	—
" " found with defective ventilators	...	...	...	...	8
Certificates cancelled	...	...	...	...	4
Water vessels defective	...	...	...	...	—
Notices served and complied with	...	...	...	...	12
Cabins leaking	...	...	...	...	1

APPENDIX.

METEOROLOGICAL OBSERVATIONS FOR THE YEAR 1900.

MONTH.	Attached Thermometer.	Barometer. Inches.	TEMPERATURE IN SHADE.							HYGROMETER.			RAINFALL.				DEATH RATE. PER 1,000.	
			Maximum.	Minimum.	Mean of Maximum.	Mean of Minimum.	Mean of Month.	Earth.		Dry Bulb Mean.	Wet Bulb Mean.	Relative Humidity.	Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which rain fell.	All Causes.	Seven Chief Zymotic Diseases.
								1 foot mean.	4 feet mean.									
January ...	50	29.902	51.0	22.0	46.4	35.1	36.5	45.0	43.5	43.0	41.3	89	5.81	1.26	6th	23	14.1	1.6
February ...	56	29.607	56.8	12.0	44.0	35.6	39.8	37.2	40.9	37.7	35.5	81	6.40	.99	18th	20	15.0	1.7
March ...	56	29.968	56.0	18.0	45.2	31.4	38.3	36.5	43.3	39.1	36.5	79	1.06	.33	21st	6	17.1	2.8
April ...	60	29.980	71.0	24.0	55.8	37.5	46.6	46.4	45.2	48.2	44.5	74	1.62	.42	3rd	12	20.3	4.7
May ...	58	29.924	65.8	34.5	58.7	42.2	50.4	52.7	50.0	52.9	48.7	72	1.89	.37	21st	13	13.1	2.2
June ...	68	30.088	75.8	39.8	61.9.	48.7	55.3	57.1	52.5	59.1	54.7	74	1.73	.27	14th	14	11.4	1.8
July ...	69	29.990	86.8	40.0	73.8.	54.0	63.9	65.2	57.1	66.4	60.5	89	.68	.27	27th	8	12.7	2.2
August ...	66	29.942	73.0	51.0	66.7.	52.9	59.8	61.3	59.0	60.7	60.3	98	4.06	.88	9th	14	11.7	1.7
September ...	61	30.104	74.0	34.0	74.0	56.0	55.5	59.1	58.4	58.7	54.2	74	1.32	.50	26th	10	13.5	2.8
October ...	59	29.981	70.0	31.0	58.6.	49.0	49.1	54.5	56.5	62.0	58.0	87	5.79	1.06	29th	21	12.1	1.2
November ...	59	29.203	63.0	26.0	52.4	36.7	44.5	49.4	53.8	45.7	42.3	77	4.99	.71	24th	22	11.7	0.7
December ...	66	29.882	57.0	26.0	49.4	37.1	43.2	45.2	47.8	44.9	43.6	90	6.55	1.06	30th	26	12.3	0.9

68.9 51.2 43.0 10.2
 51.2 43.0 10.2
 43.0 10.2

Mean Temperature of Each Month in the Year, as compared with that of the previous Five Years.

MONTH.	1891	1892	1893	1894	1895	Mean of 5 years	1896	1897	1898	1899	1900
January ...	35°8	36°2	36°8	39°4	35°5	36°3	41°6	35°9	44°0	42°2	36°5
February ...	41°6	38°6	42°2	43°0	29°3	38°9	40°8	43°5	41°3	41°3	39°8
March ...	40°8	35°9	47°1	44°4	41°6	41°9	45°9	44°6	41°1	42°1	38°3
April ...	45°5	43°2	53°0	47°0	47°9	47°3	48°0	46°3	46°6	47°2	46°6
May ...	50°9	50°7	57°3	49°7	54°4	52°6	52°9	49°1	49°9	52°0	50°4
June ...	60°2	54°5	62°4	57°1	58°5	58°5	61°4	59°5	55°9	59°8	55°3
July ...	60°2	64°1	63°6	60°3	60°0	61°6	61°4	62°7	60°6	63°8	63°9
August ...	56°4	61°3	64°8	57°5	59°0	59°8	58°6	60°9	61°5	68°3	59°8
September ...	57°0	56°0	57°1	53°2	59°7	56°6	56°8	54°4	58°8	57°8	55°5
October ...	48°8	42°9	51°0	50°3	46°7	47°9	46°2	51°2	52°7	48°9	49°1
November ...	41°7	43°8	43°2	47°2	47°2	44°6	39°9	46°1	45°7	47°0	44°5
December ...	40°4	35°8	42°1	41°8	40°0	40°0	40°0	42°5	46°7	37°3	43°5

The following Table illustrates the Daily Direction of Wind throughout the Year 1900.

Direction of Wind.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1900
N. ...	1	...	4	...	...	...	...	...	3	...	1	4	13
N.E. ...	7	15	15	8	9	17	2	7	8	4	10	2	104
N.W. ...	6	5	9	5	4	1	4	9	7	14	6	2	72
S. ...	...	...	...	...	...	...	2	3	1	...	...	1	7
S.E. ...	5	4	2	8	6	4	3	8	1	3	5	2	46
S.W. ...	11	3	1	14	12	4	13	3	8	9	5	18	101
E. ...	1	...	...	...	...	4	...	...	1	1	2	1	11
W. ...	...	1	...	...	...	...	7	1	1	...	1	1	12

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-FIVE YEARS, 1876—1900.

YEAR.	JANUARY.				FEBRUARY.				MARCH.			
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	12	0.68	2nd	5.33	22	0.90	14th	3.92	22	0.54	9th
1877	5.77	27	0.72	3rd	2.79	20	0.42	11th	2.66	21	0.55	23rd
1878	1.73	17	0.36	27th	3.07	16	0.87	27th	1.25	8	0.40	28th
1879	5.95	10	1.30	1st	5.95	23	0.86	20th	1.14	14	0.32	23rd
1880	0.87	11	0.42	13th	3.88	22	1.06	18th	1.90	12	0.75	2nd
1881	0.92	12	0.23	26th	4.81	15	1.12	9th	3.88	16	0.68	3rd
1882	3.19	13	0.82	2nd	2.56	15	0.60	28th	2.26	19	0.32	1st
1883	5.75	25	1.11	24th	3.73	20	0.65	10th	0.60	10	0.12	19th
1884	6.03	21	0.99	31st	4.40	22	1.35	17th	3.39	16	1.27	3rd
1885	3.71	20	0.58	9th	3.65	22	0.87	26th	1.87	16	0.53	29th
1886	5.03	23	0.91	30th	1.32	11	0.82	28th	3.97	13	0.68	20th
1887	2.76	15	0.73	7th	1.45	6	0.73	3rd	3.21	10	1.16	15th
1888	1.70	12	0.49	1st	1.07	9	1.09	2nd	4.62	15	0.76	24th
1889	1.58	10	0.58	9th	2.00	16	0.64	10th	3.89	16	1.17	8th
1890	5.21	24	0.61	26th	0.55	7	0.22	19th	1.52	14	0.28	24th
1891	3.58	13	1.26	23rd	0.05	2	0.03	2nd	1.76	16	0.31	15th
1892	2.10	15	0.70	16th	2.38	19	0.58	20th	1.18	6	0.48	15th
1893	2.38	19	0.94	12th	6.04	22	0.95	25th	0.31	6	0.14	2nd
1894	3.20	23	0.44	19th	3.68	20	0.78	17th	3.37	13	0.82	1st
1895	3.88	20	0.71	19th	0.17	4	0.08	24th	3.92	21	0.85	27th
1896	0.64	6	0.40	24th	1.39	9	0.80	13th	4.47	24	0.54	7th
1897	3.78	17	0.50	31st	5.73	21	0.70	4th	6.29	19	0.90	21st
1898	1.96	10	0.48	10th	1.71	17	0.22	18th	1.12	9	0.53	6th
1899	5.50	20	1.03	20th	3.89	13	0.79	4th	1.39	6	0.88	25th
1900	5.81	23	1.26	6th	6.40	20	0.99	18th	1.06	6	0.33	21st

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-FIVE YEARS, 1876-1900.

YEAR.	APRIL.				MAY.				JUNE.			
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	17	0.38	28th	0.23	4	0.12	24th	1.91	9	0.52	15th
1877	2.90	20	0.52	20th	2.47	14	0.99	16th	1.48	12	0.41	1st
1878	4.10	21	0.75	9th	4.32	24	0.71	16th	3.68	15	1.65	16th
1879	2.64	17	0.73	19th	2.85	15	0.88	29th	6.48	23	1.64	30th
1880	1.98	13	0.40	5th	1.45	11	0.46	26th	2.38	19	0.53	17th
1881	1.44	7	0.60	13th	2.62	10	1.73	17th	3.59	18	0.63	16th
1882	5.68	20	0.60	12th	2.72	13	0.59	22nd	4.28	20	0.82	5th
1883	0.67	7	0.28	26th	1.90	12	0.70	11th	1.81	17	1.16	27th
1884	1.56	11	0.43	3rd	2.37	14	0.50	2nd	1.92	9	1.11	28th
1885	2.52	16	0.67	1st	3.86	27	0.71	19th	2.61	13	1.04	23rd
1886	2.98	15	0.73	7th	6.38	19	1.52	31st	0.70	7	0.28	1st
1887	1.63	10	0.45	26th	1.94	14	0.63	19th	0.60	4	0.51	2nd
1888	1.48	13	0.30	17th	1.69	8	0.40	17th	3.69	17	0.74	17th
1889	3.54	18	0.71	30th	2.51	16	0.38	31st	0.58	6	0.41	1st
1890	1.80	14	0.34	5th	1.99	13	0.66	9th	2.46	17	0.40	10th
1891	2.02	11	0.40	2nd	3.41	17	0.75	21st	2.47	12	1.30	24th
1892	1.27	9	0.43	20th	1.35	11	0.66	27th	1.93	10	0.61	28th
1893	0.29	5	0.16	1st	2.80	12	0.72	19th	0.67	9	0.23	22nd
1894	2.05	15	0.41	23rd	2.18	15	0.50	15th	2.43	16	0.64	3rd
1895	2.08	12	0.55	24th	0.50	3	0.41	31st	1.15	9	0.32	30th
1896	2.83	14	0.80	15th	0.22	3	0.14	13th	2.48	11	1.00	7th
1897	8.18	20	0.90	13th	2.29	8	0.50	29th	5.02	11	0.90	8th
1898	1.40	10	0.28	11th	4.80	20	0.80	11th	5.06	14	0.90	4th
1899	4.34	18	0.92	20th	2.49	12	0.78	19th	1.17	5	0.45	30th
1900	1.62	12	0.42	3rd	1.89	13	0.37	21st	1.73	14	0.27	14th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-FIVE YEARS, 1876-1900.

YEAR.	JULY.				AUGUST.				SEPTEMBER.			
	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0·01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1·91	10	0·41	6th	6·06	27	2·72	19th	7·08	19	1·28	30th
1877	4·94	18	1·27	14th	5·70	21	1·42	27th	3·25	8	1·39	27th
1878	2·01	9	0·78	23rd	10·82	24	3·64	15th	3·21	9	1·28	22nd
1879	4·00	21	0·81	19th	8·12	22	1·34	27th	4·85	17	0·69	7th
1880	6·64	28	0·95	17th	0·77	7	0·27	2nd	3·67	15	0·77	17th
1881	2·62	15	0·77	30th	6·94	20	1·45	22nd	2·09	13	0·48	22nd
1882	5·77	24	0·84	6th	6·75	16	1·14	22nd	3·94	17	0·79	28th
1883	3·56	21	0·82	20th	2·09	16	0·73	8th	6·14	19	1·53	23rd
1884	4·05	20	0·94	23rd	2·21	9	0·84	31st	1·96	15	0·64	21st
1885	0·72	6	0·31	18th	2·74	12	1·07	6th	6·51	23	1·76	10th
1886	4·85	17	0·71	29th	1·68	9	0·44	9th	4·08	14	0·75	4th
1887	1·51	13	0·85	26th	2·88	11	1·02	16th	4·07	17	1·24	1st
1888	6·83	25	1·16	7th	3·50	17	0·74	29th	1·21	8	0·52	27th
1889	3·85	12	1·16	9th	3·90	15	0·65	2nd	2·09	9	1·53	23rd
1890	3·57	19	0·73	17th	3·95	20	0·95	9th	1·37	11	0·50	17th
1891	2·21	17	0·36	2nd	7·19	22	1·10	26th	2·43	19	0·51	3rd
1892	3·83	9	1·50	12th	4·64	16	1·62	27th	3·95	14	1·38	29th
1893	3·88	17	0·80	10th	3·05	14	0·52	20th	2·03	15	0·89	28th
1894	4·22	20	0·97	24th	4·55	18	1·55	25th	2·22	10	0·80	22nd
1895	4·71	15	0·94	23rd	4·08	17	1·19	12th	1·17	10	0·40	6th
1896	1·14	8	0·35	24th	2·89	15	0·84	19th	7·34	23	1·10	17th
1897	2·51	8	0·80	6th	5·42	16	1·30	30th	6·37	13	1·38	29th
1898	0·40	2	0·20	1st	3·48	10	0·67	6th	1·94	4	1·38	29th
1899	0·32	6	0·09	1st	1·74	7	0·56	29th	2·59	13	0·74	26th
1900	0·68	8	0·27	27th	4·06	14	0·88	9th	1·32	10	0·50	26th

TABLE SHOWING RAINFALL AT CARDIFF IN EACH MONTH, DURING THE TWENTY-FIVE YEARS, 1876-1900.

YEAR.	OCTOBER.				NOVEMBER.				DECEMBER.				YEAR.
	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month. Inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	
1876	3.84	17	0.62	16th	5.27	18	0.75	12th	7.13	23	0.80	17th	46.62
1877	4.89	16	1.15	24th	6.54	25	1.06	24th	3.40	25	0.88	28th	46.79
1878	5.76	18	1.09	23rd	5.76	13	0.84	9th	2.70	10	0.75	28th	45.71
1879	1.51	12	0.35	19th	0.43	8	0.18	20th	2.11	9	0.79	31st	44.79
1880	4.94	15	1.45	25th	3.67	15	0.90	15th	6.70	20	1.09	14th	38.85
1881	3.23	13	0.72	22nd	4.98	23	0.65	26th	4.50	15	1.77	7th	41.62
1882	8.33	23	1.64	23rd	6.26	21	0.90	7th	4.86	25	0.73	31st	56.60
1883	4.23	17	0.61	15th	6.38	24	0.80	21st	1.92	17	0.57	10th	38.78
1884	1.01	17	0.35	8th	2.12	16	0.47	30th	5.87	20	0.68	5th	36.89
1885	5.59	22	1.60	22nd	5.47	16	1.11	27th	1.74	17	0.05	5th	40.99
1886	5.09	21	0.87	15th	5.39	21	1.03	5th	6.64	21	1.33	26th	48.11
1887	2.80	13	1.14	29th	3.48	21	0.69	3rd	3.46	20	0.75	12th	29.79
1888	1.74	11	0.52	28th	7.04	26	1.13	12th	3.61	16	0.88	27th	38.18
1889	3.77	25	0.48	8th	1.87	12	0.75	24th	2.40	14	0.80	21st	31.38
1890	1.92	16	0.41	7th	3.89	20	0.67	6th	0.80	4	0.33	18th	29.23
1891	7.12	22	1.32	18th	3.91	15	0.74	28th	6.19	19	0.78	30th	42.34
1892	2.64	15	0.51	27th	3.25	18	0.66	4th	2.23	12	0.62	1st	22.63
1893	5.98	21	1.29	4th	2.80	13	0.58	1st	4.18	19	0.94	12th	35.91
1894	4.91	14	1.05	24th	4.72	20	0.83	13th	3.66	20	0.51	17th	41.19
1895	3.67	15	0.94	3rd	4.21	23	0.60	5th	3.45	31	0.48	17th	32.64
1896	4.65	19	0.74	5th	0.96	5	0.60	15th	6.41	22	0.72	4th	35.42
1897	3.32	7	0.90	2nd	1.82	7	0.63	27th	6.06	18	1.19	7th	56.80
1898	7.30	18	1.13	17th	7.46	16	1.39	23rd	5.44	17	1.03	6th	42.07
1899	2.34	12	0.60	27th	8.29	11	0.95	9th	3.69	19	0.86	28th	32.75
1900	5.79	21	1.06	29th	4.99	22	0.71	24th	6.55	26	1.06	30th	41.90

LOCAL GOVERNMENT BOARD TABLE.

TABLE I.

FOR WHOLE DISTRICT.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		DEATHS UNDER ONE YEAR OF AGE.		DEATHS IN PUBLIC INSTITUTIONS.	DEATHS AT ALL AGES. NETT.	
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.		Number.	Rate.*
1890	117,012	4,600	39·3	771	167	327	2,469	21·1
1891	130,283	4,737	36·5	725	153	390	2,871	22·1
1892	136,181	4,789	35·0	782	163	311	2,559	18·8
1893	142,435	5,121	36·0	918	179	332	2,796	19·7
1894	148,890	5,103	34·2	722	141	263	2,408	16·2
1895	155,637	5,321	34·1	951	179	342	2,826	18·2
1896	162,690	5,591	34·3	923	165	364	2,784	16·8
1897	170,063	5,279	31·1	796	151	303	2,534	14·9
1898	177,770	5,520	31·0	870	158	312	2,627	14·7
1899	185,826	5,309	28·5	976	184	321	2,857	15·3
Averages for years 1890-1899	152,678	5,137	34·0	843	164	326	2,673	17·7
1900	194,247	5,198	26·7	730	140	316	2,667	13·7

* Rates calculated per 1,000 of estimated population.

	At Census of 1891.		
Total population at all ages	128,915
Number of inhabited houses	20,476
Average number of persons per house	6·29
Area of District in acres (exclusive of area covered by water and foreshore)	8,351

LOCAL GOVERNMENT BOARD TABLE.

TABLE II.

YEAR.	BOROUGH.				WEST CARDIFF.			CENTRAL CARDIFF.			EAST CARDIFF.		
	Population estimated to middle of each Year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
1890 ...	117,012	4,600	2,469	771	...	...	...	...	...	...	...	...	...
1891 ...	130,283	4,737	2,871	725	...	...	...	...	...	...	...	...	...
1892 ...	136,181	4,789	2,559	782	...	...	...	...	...	...	...	...	...
1893 ...	142,435	5,121	2,796	918	...	...	...	...	...	...	...	...	...
1894 ...	148,890	5,103	2,408	722	...	...	...	...	...	...	...	...	...
1895 ...	155,637	5,321	2,826	951	...	...	...	...	...	...	...	...	...
1896 ...	162,690	5,591	2,784	923	...	...	...	...	...	...	...	...	...
1897 ...	170,063	5,279	2,534	796	...	...	...	...	...	...	...	...	...
1898 ...	177,770	5,520	2,627	870	2,089	989	303	1,610	924	279	1,821	714	288
1899 ...	185,826	5,309	2,857	976	1,943	1,096	361	1,617	1,009	308	1,749	753	307
Averages of Years 1890 to 1899...	152,678	5,137	2,673	843	...	...	...	...	...	...	...	...	...
1900 ...	194,247	5,198	2,667	730	...	...	...	...	...	...	...	...	...

Cardiff was divided into Sub-Districts, 1897.

LOCAL GOVERNMENT BOARD TABLE.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1900.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.					No. of Cases Removed to Hospital from Each Locality.				
	At all Ages.	At Ages—Years.					Central Cardiff.	West Cardiff.	East Cardiff.	Infirmary.	Union.	Central Cardiff.	West Cardiff.	East Cardiff.	Infirmary.	Union.
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.										
Small-pox ...	4	...	...	...	1	3	1	3	...	...	...	2	2	...	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ...	706	7	189	371	78	60	291	219	195	1	...	174	108	97	1	...
Membranous Croup ...	8	1	7	...	...	...	1	3	4	...	...	...	...	...	...	...
Erysipelas ...	106	...	7	13	9	65	31	37	29	5	4	...	...	...	...	...
Scarlet Fever ...	383	4	115	223	26	15	119	134	129	1	...	66	80	81	1	...
Typhus Fever ...	4	...	...	...	3	1	4	...	...	...	...	4	...	...	...	...
Enteric Fever ...	95	...	8	33	25	28	36	30	23	2	4	20	11	14	...	...
Relapsing Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever ...	5	...	1	1	1	2	...	2	3	...	...	...	...	1	...	...
Puerperal Fever ...	15	...	...	...	2	13	4	3	8	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals ...	1,326	12	327	641	145	187	487	431	391	9	8	266	201	193	2	...

LOCAL GOVERNMENT BOARD TABLE.

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1900.

CAUSES OF DEATH.	DEATHS IN WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN LOCALITIES (AT ALL AGES).			DEATHS IN PUBLIC INSTITUTIONS.
	All Ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Central Cardiff.	West Cardiff.	East Cardiff.	
Small-pox ...	2	...	...	...	...	2	...	...	2	...	2
Measles ...	162	43	109	8	1	1	...	47	37	78	2
Scarlet fever ...	11	1	9	1	...	...	...	...	9	2	7
Whooping-cough ...	40	17	20	3	...	...	...	15	16	9	...
Diphtheria and membranous croup ...	81	5	48	27	1	...	...	21	49	11	36
Croup ...	5	1	4	...	...	...	...	...	1	4	...
Fever (Enteric) ...	25	...	2	7	4	12	...	3	17	5	13
Epidemic influenza ...	32	2	...	3	2	19	6	10	10	12	...
Diarrhoea ...	81	69	5	1	...	3	3	23	43	15	1
Enteritis ...	56	40	8	2	1	2	3	20	19	17	...
Puerperal fever ...	4	...	...	...	2	2	...	1	2	1	...
Erysipelas ...	2	...	...	...	...	1	1	1	1	...	1
Other septic diseases ...	5	2	1	1	...	1	...	1	1	3	...
Phthisis ...	212	5	5	15	44	137	6	67	87	58	41
Other tubercular diseases											
Cancer, malignant disease ...	35	5	8	4	3	15	...	13	9	13	2
Bronchitis ...	79	...	...	2	2	48	27	21	29	29	10
Pneumonia ...	176	47	17	...	1	59	52	57	57	62	11
Pleurisy ...	301	73	85	13	13	94	23	88	112	101	18
Other diseases of Respiratory organs	13	...	1	1	...	6	5	5	5	3	...
Alcoholism ...	8	1	1	...	...	4	2	3	2	3	...
Cirrhosis of liver ...	27	1	1	...	...	24	1	6	13	8	3
Venereal diseases ...	5	3	...	...	...	2	...	2	2	1	1
Premature birth ...	65	65	...	...	...	...	...	21	24	20	...
Diseases and accidents of parturition ...	25	...	...	...	9	16	...	5	14	6	2
Heart diseases ...	175	7	3	4	14	101	46	64	66	45	10
Accidents ...	89	4	11	12	11	42	9	63	16	10	17
Suicides ...	11	...	...	1	2	8	...	4	4	3	5
All other causes	940	339	81	42	23	230	225	236	358	236	133
All causes	2,667	730	419	147	133	829	409	907	1,005	755	815

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1-2

DEATHS FROM SPECIFIED CAUSES AT ALL AGES, AND AT SIX GROUPS OF AGES,

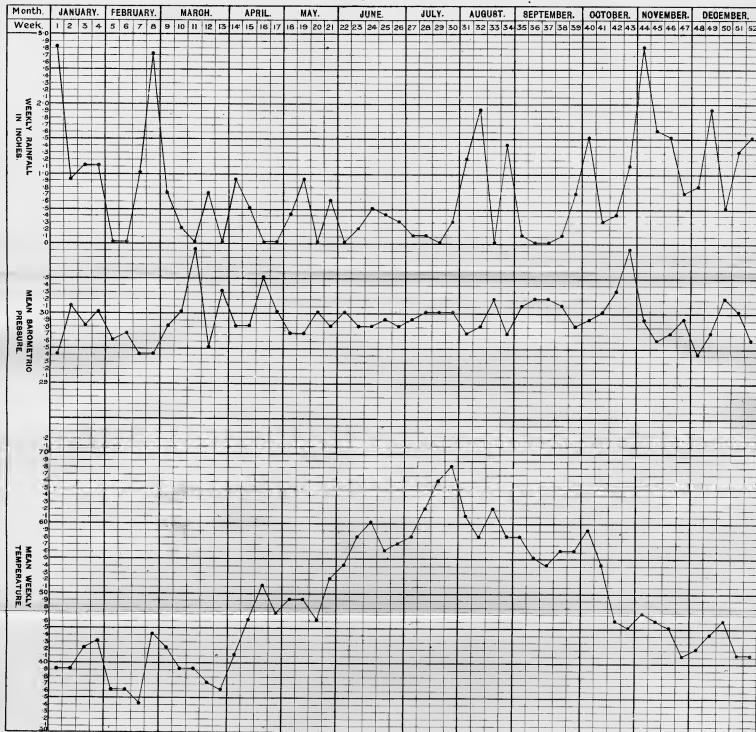
During the Year ending December 29th, 1900.

Estimated Population, 194,247.

CLASSES.	CAUSES OF DEATH.	0 to 65 and upwards.												ALL AGES.			Rate per 1,000 living.		
		0 to 1		1 to 5		5 to 15		15 to 25		25 to 65		65 and upwards.		M.	F.	Total.			
ALL CAUSES.																			
I.	Small Pox									1	1			1	1	2	0.01		
	Vaccinated																		
	Unvaccinated																		
	No Statement																		
	Measles	26	17	59	50	2	6	1		1				89	73	162	0.80		
	Scarlet Fever		1	8	3		1							6	5	11	0.06		
	Typhus																		
	Influenza																		
	Whooping Cough		9	8	6	14	1	2						16	24	40	0.25		
	Diphtheria		2	3	24	24	9	18		1				35	46	81	0.41		
	Enteric Fever				1	1	2	5	1	3	9	8		13	12	25	0.12		
	Simple Cholera, Chol. Diarrhoea																		
	Diarrhoea Dysentery		30	89	4	1								35	46	81	0.41		
	II.	Veneral Affections		3							1	1			1	4	5	0.02	
Erysipelas													1	1	2	0.01			
Fremia, Septicemia			1					1			1			1	2	3	0.01		
Puerperal Fever										2		2		4	4	8	0.04		
Other Specific Feb. or Zymotic Diseases				2	1									2	8	5	0.02		
Parasitic Diseases																			
III.		Dietic Diseases, Alcoholism									4				4		4	0.02	
		Rheumatic Fever					1	1							1	1	2	0.01	
		Rheumatism					1	1		1	1	1	1	1	3	4	7	0.03	
		Rickets	4	1	2	1									6	2	8	0.04	
		Cancer, Malignant Diseases													23	46	69	0.40	
		Tabes Mesenterica		4	3	1	1	1							6	4	10	0.05	
		Tubercular Meningitis, Hydrocephalus		8	10	5	18	4	8	1	3	7			21	44	65	0.38	
		Phthisis Pulmonalis		4	1	3	2	3	12	14	30	79	58	5	108	104	212	1.09	
	Scrofula, Tuberculosis			2	2				2	3	8			17	18	35	0.18		
	Anaemia, Chlorosis		1											4	8	7	0.04		
	Diabetes Mellitus									5	3			5	8	8	0.08		
	Other Constitutional Diseases										1			1	1	1	0.00		
	V.	Premature Birth		35	30										35	30	65	0.38	
		Congenital Malformations		7	7				1						7	8	15	0.07	
Old Age										4	7	58	60	57	67	124	0.63		
Inflammation of Brain and Membranes										1	1			1	1	2	0.01		
Apoplexy, Paralysis										25	22	17	24	44	46	90	0.46		
Epilepsy			1		1			1		2	3		1	6	4	10	0.05		
Convulsions			50	25	8	8	1			1		3		59	37	96	0.50		
Laryngismus Stridulus			2	1	1		1							4	1	5	0.02		
Paraplegia, Disease of Spinal Cord									1					1	2	2	0.02		
Other Diseases of Nervous System			1							2	10	1	4	6	15	21	0.10		
Endocarditis, Valvular Diseases			2	5	2	1	1	8	7	7	50	51	21	25	88	92	175	0.90	
Pericarditis											2			2	1	3	0.01		
Angina Pectoris								1			1			1		3	0.01		
Syncope			1							1		2		1	3	3	0.03		
VI.	Aneurism									3				3		3	0.01		
	Senile Gangrene												1	1	1	0.00			
	Embolism, Thrombosis									3			1		4	4	0.02		
	Other Diseases of Circulation		1											2	1	3	0.01		
	Laryngitis		1			1				1				2	1	3	0.01		
	Croup		1		2									3	2	5	0.02		
	Other Diseases of Larynx and Trachea									1				1		1	0.00		
	Emphysema, Asthma					1				2	1	1	1	3	3	6	0.03		
	Bronchitis		25	22	8	9			1		30	29	32	30	86	90	176	0.90	
	Pneumonia		42	31	45	40	6	7	6	71	23	11	12	182	119	301	1.54		
	Other Respiratory Diseases				1				1		2	4	3	2	6	7	13	0.06	
	Stomatitis		1											1		1	0.00		
	Dentition		18	8	3	5								16	13	29	0.14		
	Diseases of Stomach and Intestines		5	8						1	4	5	2	5	11	14	25	0.13	
Gastritis		16	13	2	1					1	2	2	1	21	17	38	0.19		
Enteritis		21	19	1	4	2				1	1		3	38	28	56	0.28		
Peritonitis		2	2		2	2	1	2	2	3	1		1	9	9	18	0.09		
VII.	Jaundice		1	1		1					2			1	4	5	0.02		
	Cirrhosis and other Diseases of Liver									8	12		1	10	13	23	0.11		
	Other Diseases of Digestive System		3	2	1									4	13	17	0.08		
	Diseases of Urinary Organs		1	1	2	1	2	2	1	2	32	10	12	5	40	21	61	0.31	
	Diseases of Organs of Generation		1	1				1			1	7		5	2	14	16	0.07	
	Diseases of Organs of Parturition								9		16				25	25	0.13		
	Diseases of Integumentary System		3	2							1	2	1		5	4	9	0.04	
	Other Local Diseases		3	1			5	1	1	1	2	4	8	4	14	12	26	0.13	
	VIII.	Accident, Negligence		3	1	6	5	7	5	11		34	8	4	5	65	24	89	0.46
		Suffocation		3	1							1				4	1	5	0.02
		Homicide										2	1			3	1	4	0.02
		Suicide										2	8			8	3	11	0.05
	Execution																		
	VIII.	Debility, Atrophy, Inanition		54	49	3	4					2	3	2	1	61	57	118	0.60
Other Ill-defined Causes			11	8	2	3	1	8	2		18	6	5	1	34	21	55	0.27	
TOTAL		406	324	209	210	57	90	58	75	457	372	183	226	1,370	1,297	2,667	13.7		

1900.

Meteorological Observations taken at the Roath Park.



Notes :

Chart Showing death-rate per 1,000 of the population from Zymotic Diseases during the Years 1878—1900.

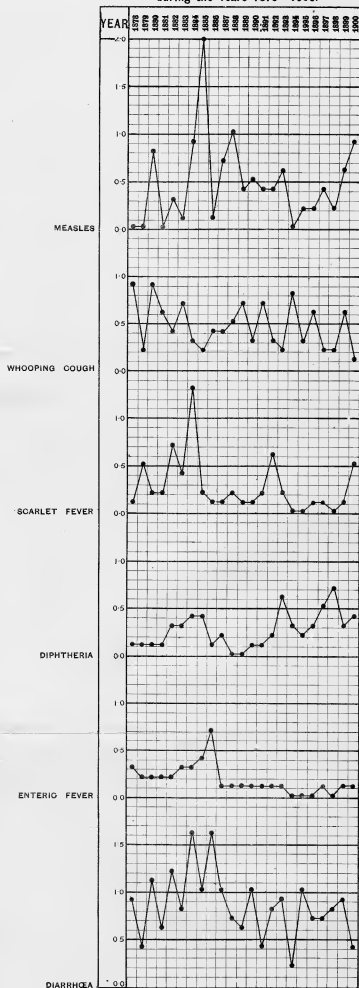
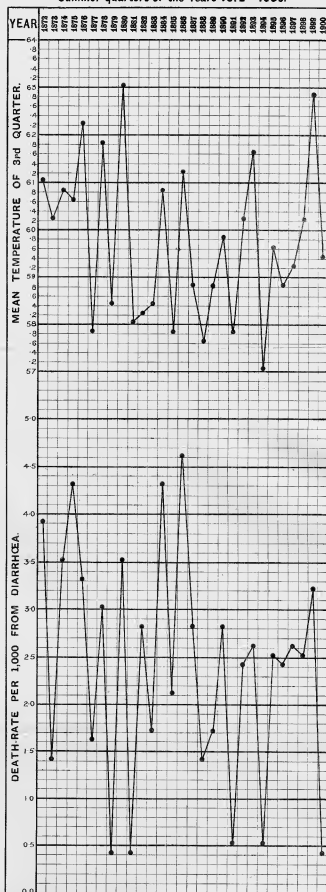
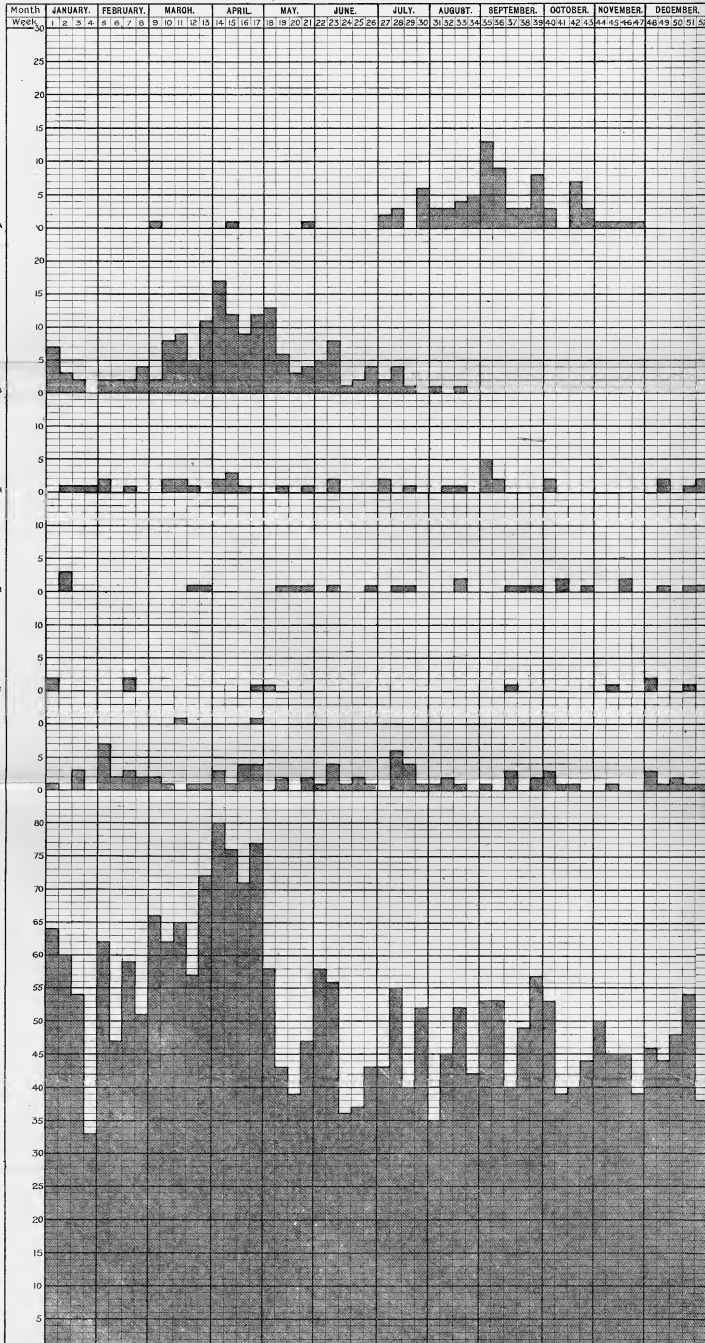


Chart shewing the influence of temperature on the Diarrhoea death-rate in Cardiff, during the Summer quarters of the Years 1872—1900.



1900.



Notes :